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The direction of the wind had been noted during the time of observation, as follows:

Wind east until 9, A. M. From 9, A. M., until 10¼, A. M., wind S. W. with a little rain. From 10¼ violent west wind with snow. The clouds gathered like a summer thunder storm. I thought I discovered a faint flash of lightning about 12. Mrs. L. reports to me, that between 6 and 7, P. M., there was a partial remission of the storm. This may account for the sudden elevation of temperature that appears on the record at that time. The greatest violence of the storm was after this time, gradually declining after 11 or 12 o'clock. The snow accompanying this storm was in very fine particles. Probable range of temperature from 10, A. M., 7th Feb., until 8, A. M., 8th Feb., about 70°. Feb. 11th, at 2¼, P. M., temperature 52° ! !

February 19*th.*

Mr. Lea, President, in the Chair.

Thirty-five members present.

A paper was presented for publication, entitled

" Descriptions of new species of Anodonta and Lithasia, by Isaac Lea," which was referred to a committee."

Dr. Slack called the attention of the members to some specimens of mammalia upon the table, viz.:

Anomalurus Beechcroftii (Fraser, P. Z. S.,) 1852, page 11, t. This genus resembles somewhat the American flying squirrel, (Pteromys,) but differs in having the greater portion of the tail covered with very short hairs, terminating in a tuft. On the inferior surface of the basal portion are a number of sharp, short spines, projecting downward. These are used by the animal in climbing, somewhat in the manner of climbing irons. This specimen is from Western Africa, collected by Duchaillu.

Belideus flaviventer (*Waterhouse*, Marsupialia, p. 286.) A fine mounted specimen of this species, the Hepoona Roo of the colonists, was exhibited, and the distinction pointed out between the genera Belideus and Acrobates. This specimen was procured by Dr. Slack of a dealer in Edinburgh, and was said to have been received from New South Wales.

A fine series of the Aluatta caraya *Slack*, (*Simia caraya* Humb., *Mycetes niger* Wied.) Dr. S. stated that the name of Mycetes (*Illiger*, Prodromus, 1811,) should be replaced by that of Aluatta, proposed by Lacepède in his Tableaux de Classification, 1799. The series consisted of five specimens, an adult male, entirely black; a very young male and adult female of a golden yellow color; and two nearly adult males, yellow, dashed with black. Two of the specimens were in the collection of the Academy, the others were collected during the recent Paraguay expedition, and are the property of the Smithsonian Institution.

Among the mammals presented by the Smithsonian Institution this evening, he particularized a female of the Caprovis canadensis *Gray*, *Ovis canadensis* Shaw, Nat. Misc., xv., 1790, (*Ovis montana* Ord. Journ. A. N. S., vol. i. page 8, 1817,) and a very large specimen of the Castor canadensis *Kuhl.*, measuring three feet five inches from extremity of snout to end of tail.

February 26*th.*

Mr. Lea, President, in the Chair.

Thirty-three members present.

On report of the respective committees, the following were ordered to be printed in the Proceedings:

Synonymy of the Cyclades, a family of Acephalous Mollusca. Part 2.

BY TEMPLE PRIME.

Species.

GALATEA, Brug.

1. G. Aegyptica, Fischer. Il. Conch. v. 342. 1856. Bernardi Monog. 39, pl. vi., f. 1, 2. 1860.
   Venus Aegyptica, Chemn. xi. 231, f. 1985, 1986.
   Galatea Chemnitzii, Phil. Abb. 124. 1851.
   Hab. Egypt.

2. G. G. Bengoensis, Dkr. Ind. Guin. 51, pl. ix. f. 28, 30. Zeit. Malak. 183. 1848. Phil. Abb. 123. 1851. Bernardi Monog. 25, pl. vi. f. 5, 6., pl. ix. f. 4. 1860.
   Hab. Africa.

3. G. Bernardii, Dkr. Il. Conch. 338, pl. xii. f. 3. 1857. Bernardi Monog. 32, pl. v. f. 1, 5. pl. viii. f. 8. 1860.
   Hab. Guinea.

4. G. Caillaudii, Bernardi. Bern. Monog. 43, pl. iv. f. 1, 2. pl. ix. f. 3. 1860.
   Hab. Africa.
   —G. Chemnitzii, Phil. Phil. Abb. 124. 1851. Is Gal. Aegyptica, Fischer.

5. G. concamerata, Duval. Rev. Zool. 211. 1840. Chenu. Ill. Conch. livr. 55. 2d pl. suppl. f. 3. Bernardi Monog. 20, pl. ii., f. 1. pl. iii., f. 1, 2, pl. viii. f. 1. 1860.
   Hab. Africa.

6. G. Cumingii, Dkr. Bernardi Monog. 35, pl. vi. f. 7, 8. pl. ix. f. 8. 1860.
   Hab. Gaboon.

7. G. Heukelomii, Bernardi. Bern. Monog. 30, pl. vi. f. 3, 4. pl. ix. f. 2. 1860.
   Hab. Africa.

8. G. Kochii, Bernardi. Bern. Monog. 22, pl. iv. f. 3–8, pl. ix. f. 6, 7. 1860.
   Hab. Central Africa.

9. G. laeta, Phil. Zeit. Malak. 190. 1848. Phil. Abb. 123, pl. 1, f. 2. 1851. Bernardi Monog. 27, pl. 1, f. 3–8. pl. viii. f. 7. 1860.
   Hab. Guinea.

10. G. Lubackii, Bernardi. Bern. Monog. 24, pl. 1, f. 4, 6. pl. viii. f. 4. 1860.
    Hab. Africa.
    —G. paradoxa, Adams. Adams, Rec. Gen. 2, 408. 1858. Is Gal. radiata, Lam.
    —G. Philippiana, Morelet. Mss. Is Gal. laeta et rubiconda.

11. G. radiata, Lamk. Ann. Mus. v. 430, f. 28. 1806. Bernardi Monog. 18, pl. vii. f. 1–5, pl. viii. f. 3. 1860.
    Pectunculus subviridis, crassissimus, rostratus? List. pl. 158, f. 13. 1770.

Venus paradoxa, Born. Born. Mus. 66, pl. iv. f. 12, 13. 1780.
V. reclusa, Chemn. vi. 326, pl. 31, f. 327–329. 1788.
V. meretrix, var. Gml. 13 ed. 3273. No. 15. 1793.
V. hermaphrodita, Gml. 13 ed. 3278. No. 40. 1793.
V. subviridis, Gml. 13 ed. 3280. No. 55. 1793. Brug. Encycl. pl. 250. 1797.
Egeria radiata, Roissy. Buffon, vi. 327, pl. 64, f. 5.
Douax variegata, Perry. Conch. pl. 58, f. 1? 1811.
Tellina hermaphrodita, Diller. Cat. 1, 107. 1817.
Trigona (ex parte.) Schum. 153. 1817.
Cyclas hermaphrodita, Mart. Mag. Nat. Hist. 1, 402, pl. 1, f. 1, 2.
Potamophila radiata, Sowb. Gen. of Shells.
Megadesma radiata, Bowd. Elem. Conch. 2d pt. 8, f. 21. 1822.
Cyclas radiata, Schweig. Handbuch d. nat. 707.
Venus paradoxa, Wood. Index, pl. vii. f. 48. 1828.
Galatea paradoxa, Adams. Rec. Gen. 2, 408. 1858.
Hab. Africa.

12. G. rubicunda, Phil. Zeit. Malak. 190. 1848. Phil. Abb. 123, pl. 1, f. 2. 1852. Bernardi Monog. 37, pl. 1, f. 1, 2, pl. viii. f. 2. 1860.
Galatea Philippianæ, Morelet. (pars.) Mss.
Hab. Guinea.

13. G. tenuicula, Phil. Zeit. Malak. 191. 1848. Phil. Abb. iii. 124, pl. 1, f. 3. 1851. Bernardi Monog. 41, pl. ii. f. 2; pl. viii. f. 5. 1860.
Hab. ?
—G. versicolor, Morelet. Adams. Rec. Gen. 2, 408. 1858. Is Gal. laeta et rubiconda.

Fischeria,[*] Bernardi. 1860.

1. F. Delessertii, Bernardi. Bernardi Monog. 46, pl. 3, f. 3, 4; pl. ix. f. 5. 1860.
Hab. Cape Palmas, Africa.

Glauconome, Gray.

1. Gl. angulata, Reeve. Proc. Zool. xii. 20. 1844. Conch. Icon. pl. 1, f. vi.
Hab. Isl. of Negros.
—Gl. bipinnata, Phil. Pal. Foss. pl. xi. f. 33. Is Ichthyorachus bipinnata, d'Orb.

2. Gl. cerea, Reeve. Proc. Zool. xii. 20. 1844. Conch. Icon. pl. 1, f. viii.
Hab. The Ganges.

3. Gl. Chinensis, Reeve. Conch. Icon. pl. 1, f. 1.
Hab. China.

4. Gl. convexa, Desh. Grat. Moll. terr. et fluv. Fr. 51. 1855.
Hab. France, (fossil.)

5. Gl. corrugata, Reeve. Proc. Zool. xii. 20. 1844. Conch. Icon. pl. 1, f. v.
Hab. Manilla.

6. Gl. curta, Reeve. Proc. Zool. xii. 20. 1844. Conch. Icon. pl. 1, f. 7.
Hab. Lucon.
—Gl. disticha, Goldf. pl. 64, f. 15. 1830. Is Penniretepora disticha, d'Orb.

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[*] This genus having been instituted subsequently to the publication of the first part of this paper, did not appear in the list given of the genera belonging to this family.

—Gl. disticha, Lonsdale. Murch. Silur. pl. xv. f. 12. 1839. Is Penniretepora Lonsdalei, d'Orb.
—Gl. gracilis, McCoy. Syn. Ireld. 199, pl. 28, f. v. 1844. Is Penniretepora gracilis, d'Orb.
—Gl. grandis, McCoy. Loc. sub. cit. 199, pl. 28, f. 3. 1844. Is Penniretepora grandis, d'Orb.
--Gl. hexagona, Münst. Goldf. Petr. Germ. 1, 100, pl. 36, f. 8. 1831. Is Vincularia hexagona, d'Orb.
—Gl. marginata, Münst. Goldf. Petr. Germ. 1, 100, pl. 36, f. v. 1831. Is Vincularia marginata, d'Orb.

7. Gl. plana, Desh. Grat. Moll. terr. fluv. Fr. 51. 1855.
Hab. France, (fossil.)

8. Gl. psmatella, Desh.
Glauconomeya psmatella, Desh. Adams. Rec. Gen. 2, 442. 1858.
Hab?
—Gl. pulcherrima, McCoy. Syn. Ireld. 99, pl. 28, f. 4. 1844. Is Plytopora pulcherrima, d'Orb.

9. Gl. radiata, Reeve. Proc. Zool. xii. 20. 1844. Conch. Icon. pl. 1, f. 3.
Hab. Zeeba.
—Gl. rhombifera, Münst. Goldf. Petr. Germ. 1, 100, pl. 36, f. 6. 1831. Is Vincularia rhombifera, d'Orb.

10. Gl. rostralis, Desh.
Glauconomya rostralis, Desh. Adams. Rec. Gen. 2, 442. 1858.
Hab?

11. Gl. rugosa, Reeve. Proc. Zool. xii. 19. 1844. Conch. Icon. pl. 1, f. 4. Hanley in Wood. Index, pl. x. f. 4.
Hab. Manilla.

12. Gl. straminea, Reeve. Proc. Zool. xii. 20. 1844. Conch. Icon. pl. 1, f. 2.
Hab. Manilla.
—Gl. tetragona, Münst. Goldf. Petr. Germ. 1, 100, pl. 36, f. 7. 1831. Is Vincularia fragilis, Defrance.

13. Gl. virens? Hanley. Proc. Zool. xii. 18. 1844.
Hab. China.

CYPRINA, Lamk.

—C. aequalis, Phil. Sicil 1, 39. 1836. Is Cyprina Islandica, Lamk.

1. C. affinis, d'Orb. Prod. 1. 1850.
Venus affinis, Münst. Goldf. Petr. Germ. 2, 244, pl. 150, f. xi. 1839.
Hab. Germ., (fossil.)

2. C. Alcyon, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

3. C. amphytrion, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

4. C. angulata, Sowb. M. C. 1, 145, pl. 65. 1314.
Hab. England, (fossil.)
—C. angulata, Sowb. Trans. Geol. iv. 128. 1836. Is Cyprina Sowerbyi, d'Orb.

5. C. Antiopa, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

6. C. antiqua, d'Orb. Prod. 1. 1850.
Venus antiqua, Münster. Goldf. Petr. Germ. 2, 243, pl. 150, f. iv. 1839.
Hab. Germ., (fossil.)
—C. Archiacina, d'Orb. Prod. 2. 1850.
Crassatella quadrata, d'Archiac. Mem. Soc. Geol. 2d ser. 2, 301, pl. xiv. f. 1. 1847.
Hab. Belgium, (fossil.)
—C. Arctica, Turt. Brit. bivalves, 135. 1822. Is Cyprina Islandica, Lamk.

7. C. arenaria, Meek & Hayden. Proc. Ac. N. S. Phil. ix. 143. 1857.
Hab. N. America, (fsssil.)

8. C. Arethusa, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

9. C. Arion, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

10. C. astartaeformis, d'Orb. Prod. 1. 1850.
Isocardia astartaeformis, Münst. Beitr. Petr. iv. 87, pl. viii. f. 24. 1841.
Hab. France, (fossil.)

11. C. Bajocina, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

12. C. Beaumontii, d'Orb. Prod. 1. 1850.
Cardium Beaumontii, d'Archiac. Mem. Soc. Geol. 373, pl. xxvi. f. 4. 1843.
Hab. France and England, (fossil.)

13. C. Bernardina, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)

14. C. Bernensis, Leymerie. 1842.
Cyprina rostrata, d'Orb. (non Sowb.) Pal. Fr. cret. 3, 98, pl. 271. 1843.
Hab. France, (fossil.)

15. C. Blandina, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

16. C. Bonasia, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

17. C. Bosquetiana, d'Orb. Prod. 2. 1850.
Hab. Germ., (fossil.)

18. C. Bronnii, Desh.
Hab. Germ., (fossil.)

19. C. Calliope, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

20. C. Cancriniana, d'Orb. Murch. Vern. et de Keys. Russia, 2, 457. pl. 38, f. 26, 27. 1845.
Hab. Russia, (fossil.)

21. C. carditaeformis, d'Orb. Prod. 1. 1850.
Venus carditaeformis, Roemer, Oolit. 109, pl. vii. f. 15. 1836.
Hab. Germ., (fossil.)

22. C. carinata, d'Orb. Prod. 1. 1850.
Venus carinata, Roemer. Oolit. 110, pl. vii. f. 10. 1836.
Hab. Germ., (fossil.)

23. C. Carteroni, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)

—C. compressa, Turt. Brit. bivalves, 136, pl. xi. f. 21–23. 1822. Is Astarte compressa, Mont.

24. C. compressa, Meek & Hayden. Proc. Ac. N. S. Phil. 144. 1857.
Hab. N. America, (fossil.)

25. C. Conradi, d'Orb. Prod. 2. 1850.
Venilia Conradi, Morton. Syn. Cret. pl. viii. f. 1, 2. 1834.
Cardita decisa. Loc. sub. cit.. pl. ix. f. 3. 1834.
Hab. N. America, (fossil.)

26. C. consobrina, d'Orb. Paleont. 3, 107, pl. 278, f. 3–6. 1843.
Hab. France, (fossil.)

27. C. Corallina, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)

28. C. cordata, Meek & Hayden. Proc. Ac. N. S. Phil. ix. 143. 1857.
Hab. N. America, (fossil.)

29. C. cordiformis, d'Orb. Paleont. 3, 101, pl. 273. 1843.
Hab. France, (fossil.)

30. C. cornuta, d'Orb. Prod. 2. 1850.
Isocardia cornuta, Kläden. Pl. 3, f. 8. Roemer 38, pl. 19, f. 14. 1839.
Hab?

31. C. corrugata, Lamk. Lamk. v. 1818.
Hab? (fossil.)
—C. crassa, Desh. Encycl. Méth. t. 11. 2d part, 47. 1830. Is Corbicula crassa, Desh.

32. C. crassitesta, Reüss.
Hab. Germ., (fossil.)

33. C. cuneata, Sowb. Trans. Geol. Soc. iv. 240, pl. 16, f. 19. 1836.
Hab. France and England, (fossil.)

34. C. Cytherea, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)
—C. Defrancii, Van Beneden. Is Cyprina rustica, Flem.
—C. deltoidea, Phil. Pal. foss. pl. 17, f. 59. Is Cardium dettoideum, d'Orb.

35. C. dimorpha, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

36. C. dolabra, d'Orb. Prod. 1. 1850.
Hab. England, (fossil.)

37. C. donacina, d'Orb. Prod. 1. 1850.
Venus donacina, Schloth. Goldf. Petr. Germ. 2, 242, pl. 150, f. 3. 1839.
Hab. Germ., (fossil.)
—C. Egertoni, McCoy. Syn. Ireld. 55, pl. x. f. 9. 1844. Is Cardimorpha Egertonii, d'Orb.

38. C. Elea, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)

39. C. elongata, d'Orb. Paleont. 3, 106, pl. 267, f. 816. 1843.
Hab. France, (fossil.)

40. C. Erato, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)

41. C. Eucharis, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)

42. C. Ervyensis, d'Orb. Paleont. 3, 102, pl, 274. 1843.
Hab. France, (fossil.)

43. C. Gea, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)
—C. gigas, Lamk. Lamk. v. 1818. Is Venus umbonaria.

44. C. globosa, d'Orb. Prod. 1. 1850.
Cardium globosum, Roemer. Oolit. 39, pl. 19, f. 19. 1836.
Venus tenuistria, Münst. Petr. Germ. 1, 245, pl. 150, f. 18. 1839.
Hab. Germ., (fossil.)
—C. globosa, Sharpe. Journ. Geol. Soc. vi. pl. 15, f. 1. Is Cyprina Sharpei, Prime.

45. C. Glycerie, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)

46. C. Helmerseniana, d'Orb. Murch. 2, 457, pl. 38, f. 28–30. 1845.
Hab. France, (fossil.)

47. C. Hersilia, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)

48. C. humilis, Meek & Hayden. Proc. Ac. N. S., Phil. 179. 1860.
Hab. N. America, (fossil.)
—C. incrassata, Nyst. Coq. Foss. Hasselt. 7. 1836. Is Cytherea incrassata, Sowb.

49. C. inornata, d'Orb. Paleont. 3, 99, pl. 272, f. 1, 2. 1843.
Hab. France, (fossil.)

50. C. intermedia, d'Orb. Paleont. 3, 107, pl. 278, f. 1, 2. 1843.
Hab. France, (fossil.)

51. C. involuta, d'Orb. Prod. 1. 1850.
Corbula involuta, Münst. Goldf. Petr. Germ. 2, 250, pl. 151, f. 14. 1839.
Hab. Germ., (fossil.)

52. C. Islandica, Lamk. Lamk. v. 1818.
Venus Islandica, Linn. 1131. Müller, Verm. 246. 1774.
Pectunculus major, da Costa. 183, pl. 14, f. 3. 1778.
Venus bucardium, Born. Mus. 63, pl. 4, f. 11. 1780.
Artica vulgaris, Schum. 145, pl. 13, f. 3. 1817.
Cyprina arctica, Turt. Brit. bivalves, 135. 1822.
Venus aequalis, Sowb. M. C. pl. xxi.
Cyprina aequalis, Phil. Sicil. 1, 39. 1836.
C. maxima, Wood. Ann. N. H. vi. 249.
C. angulata, Sowb. Nyst. Foss. Anvers, 9.
C. Islandicoides, Lamk. Loc. sub. cit. p. 9.
C. vulgaris, Sowb. Gen. of Shells.
Hab. Europe and America.
—C. Islandicoides, Lamk. Lamk. v. 1818. Is Venus Islandicoides, Lamk.

53. C. Jurensis, Morris. Brit. fossils, 199. 1854.
Venus Jurensis, Münster. Goldf. Petr. Germ. 2, p. 245, pl. 150, f. 17. 1839.
Hab. England and Germany, (fossil.)

54. C. Kharascovensis, Rouillier. Bull. Soc. Moscou xx. 421, f. 32, 32. 1847.
Hab. Russia, (fossil.)
—C. Lajonkairii, Goldf. Petr. Germ. 237, pl. 148, f. 9. 1841. Is Cyprina rustica, Goldf.

55. C. **lata**, d'Orb. Prod. 2. 1850.
Venus lata, Roemer. 27, pl. ix. f. 10. 1841.
Hab. Germ., (fossil.)

56. C. **laticostata**, d'Orb. Prod. 1. 1850.
Isocardia laticostata, Münster. Beitr. iv. 87, pl. viii. f. 24. 1841.
Hab. Austria, (fossil.)

57. C. **Ligeriensis**, d'Orb. Paleont. 3, 103, pl. 275, f. 1–3, (exclus. f. 4, 5.) 1843.
Hab. France, (fossil.)

58. C. **lunulata**, Desh. Inv. Paris, 1, 546, pl. xxxv. f. 19–21. 1860.
Hab. France, (fossil.)
—C. **maxima**, Wood. Ann. N. H. vi. 249. Is Cyprina **Islandica**, Lamk.
—C. **minima**, Turt. Brit. bivalves, 137. 1822. Is Circe **minima**.

59. C. **Morrissii**, Sowb. Min. Conch. pl. 620.
Hab. England, (fossil.)

60. C. **nana**, Sowb. Dixon, Foss. Suss. pl. 14, f. 8.
Hab. England, (fossil.)

61. C. **neglecta**, d'Orb. Prod. 3. 1852.
Erycina neglecta, Nyst. 89, pl. 3, f. 134. 1843.
Hab. Belgium, (fossil.)

62. C. **Neptuni**, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)

63. C. **nitida**, d'Orb. Prod. 1. 1850.
Isocardia nitida, Phil. 122, pl. ix. f. 10. 1829.
Hab. England, (fossil.)

64. C. **Normaniana**, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

65. C. **Noueliana**, d'Orb. Prod. 2. 1850.
Cyprina Ligeriensis, d'Orb. (pars.) Paleont. 3, 103, pl. 275. f. 4, 5, (exclus. 1–3.) 1843.
Hab. France, (fossil.)

66. C. **nuda**, d'Orb. Prod. 1. 1850.
Venus nuda, Goldf. Zieten. 94, pl. 71, f. 3. 1830.
Hab. Germ., (fossil.)

67. C. **Nystii**, Hebert. 1849.
Cyprina scutellaria, Nyst. (non Desh.) 145, pl. 7, f. v; pl. 8, f. 1. 1843.
Hab. Belgium, (fossil.)
—C. **obliqua**, d'Orb. Prod. 2. 1850. Is Corbicula **obliqua**, Desh.

68. C. **obliquissima**, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

69. C. **oblonga**, d'Orb. Paleont. 3, 105, pl. 277, f. 1–4. 1843.
Astarte cyprinoides, d'Archiac. Tourtia pl. xiv. f. 5. 1847.
Hab. France and Belgium, (fossil.)
—C. **oblonga**, Reuss. p. 4, pl. 15. 1846. Is Crassatella **oblonga**, d'Orb.

70. C. **orbicularis**, Roem. Nord D. Kreide, 73, pl. ix. f. 8. 1841.
Hab. France and Germany, (fossil.)
—C. **orbiculata**, Turton. Brit. bivalves, 138. 1822. Is Lucina **orbicularis**, Mont.

71. C. ovata, Meek & Hayden. Proc. Ac. N. S., Phil. ix. 144. 1857.
Hab. N. America, (fossil.)

72. C. parvula, d'Orb. Prod. 2. 1850.
Venus parvula, Roemer. Oolith. iii. pl. vii. f. 13. 1836.
Hab. Germ., (fossil.)
—C. Pedemontana, Lamk. Lamk. v. 1818. Is Venus Pedemontana.

73. C. Phillipsii, d'Orb. Prod. 1. 1850.
Isocardia angulata, Phillips. Yorksh. 122, pl. ix. f. 9. 1829.
Hab. England, (fossil.)

74. C. piatigorskensis, Fischer. Bull. Soc. Moscou, xxi. 1848.
Hab. Russia, (fossil.)
—C. pisum, d'Orb. Prod. 2. 1850. Is Corbicula pisum, Desh.

75. C. plana, d'Orb. Prod. 1. 1850.
Isocardia plana, Münster. Petref. iv. 87, pl. viii. f. 23. 1841.
Hab. Germany, (fossil.)
—C. planata, Sowb. M. C. pl. 619. Is Cyprina scutellaria, Desh.

76. C. Provencialis, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)

77. C. quadrata, d'Orb. Paleont. 3, 105, pl. 276. 1843.
Hab. France, (fossil.)

78. C. regularis, d'Orb. Loc. sub. cit. 3, 100, pl. 272, f. 3–6. 1843.
Hab. France, (fossil.)

79. C. Roemeri, d'Orb. Prod. 1. 1850.
Lucina globosa, Roemer. Oolit. 41, pl. 19, f. 6. 1831.
Hab. Germ., (fossil.)

80. C. rostrata, Sowb. Geol. Trans. iv. 240, pl. 17, f. 1. 1836.
Hab. England, (fossil.)
—C. rostrata, d'Orb. Pal. 3, 98, pl. 271. 1843. Is Cyprina Bernensis, Leym.

81. C. rotundata, Braûn. Agas. Icon. coq. test. 53, pl. 14. 1845.
Hab. Germ., (fossil.)

82. C. Royana, d'Orb. Prod. 2. 1850.
Hab. France, (fossil.)

83. C. rustica, Morris. Brit. Foss. 199. 1854.
Venus rustica, Sowb. Mur. Conch. pl. 196.
Cyprina Lajonkairii, Goldf. Petr. Germ. 237, pl. 148, f. 9. 1841.
C. tumida, Nyst. Tert. Belg. 148, pl. x. f. 1. 1835, 1843.
C. Defrancii, Van Beneden.
Hab. England, Belgium and Germany, (fossil.)

84. C. scutellaria, Desh. Coq. foss. 1, 125, pl. xx. f. 1–3. 1824.
Cytheria scutellaria, Defr. Dict. Scie. Nat. t. xii. 421. 1818.
Cyprina planata, Sowb. M. C. pl. 619.
Hab. France and England, (fossil.)
—C. scutellaria, Nyst. 145, pl. vii. f. 5, pl. viii. f. 1. 1843. Is Cyprina Nystii. Heberi.

85. C. Sharpei, Prime.
Cyprina globosa, (preoc.) Sharpe. Journ. Geol. Soc. vi. pl. 15, f. 1.
Hab. England, (fossil.)

86. C. Sowerbyi, d'Orb. Prod. 2. 1850.
Cyprina angulata, Sowb. Trans. Geol. Soc. iv. 128. 1839. (non. Sowb. M. C.)
Hab. England, (fossil.)

87. C. strigillata, d'Orb. Prod. 1. 1850.
Cardita strigillata, Klippstein. Beitr. Geol. 255, pl. xvi. f. 23. 1845.
Hab. Germany, (fossil.)

88. C. subangulata, d'Orb. Prod. 1. 1850.
Venus angulata, Münster. Goldf. Petr. Germ. 2, 243, pl. 150, f. v. 1839.
Hab. Germany, (fossil.)

89. C. subcordiformis, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)

90. C. subobliqua, d'Orb. Prod. 1. 1850.
Venus obliqua, Münster. Goldf. Petr. Germ. 2, 243, pl. 150, f. 6, 1839.
Hab. Germ., (fossil.)

91. C. subrostrata, Münster. Beitr. iv. 87, pl. viii. f. 26, 1841.
Hab. Germ., (fossil.)

92. C. subtumida, Meek & Hayden. Proc. Ac. N. S. Phil. ix. 144. 1857.
Hab. N. America, (fossil.)
—C. tenuistria, Lamk. Lamk. v. 1848. Is Venus Chinensis, Chemn.

93. C. trapeziformis, d'Orb. Prod. 1. 1850.
Venus trapeziformis, Roemer. Oolit. 109, pl. vii. f. 14. 1836.
Hab. Germany, (fossil.)
—C. triangularis, Turt. Brit. bivalves, 136, pl. xi. f. 19, 20. 1822. Is Circe minima.
—C. tridacnoides, Lamk. Lamk. v. 1818. Is Venus deformis, Say.
—C. trigona, d'Orb. Prod. 2. 1850. Is Corbicula triangula, Prime.
—C. tumida, Nyst. Coq. Tert. Belg. 148, pl. x, f. 1. 1835–1843. Is Cyprina rustica, Fleming.
—C. umbonaria, Lamk. Lamk. v. 1818. Is Venus umbonaria.
—C. vetusta, Roemer, 25, pl. vi. f. 1843. Is Cardinia vetusta, d'Orbigny.

94. C. Vieilbancii, d'Orb. Prod. 1. 1850.
Hab. France, (fossil.)
—C. vulgaris, Sowb. Gen. of Shells. Is Cyprina Islandica, Lam.

Synopsis of the Subfamily of CLUPEINÆ, with descriptions of new Genera.

BY THEODORE GILL.

To enable the reader to better understand the descriptions of the new genera to be now proposed, we give the characters of the groups of the Clupeinæ as understood by us, and a synopsis of all the known genera.

The family of Clupeoids, as restricted by the learned French icthyologist who has so well continued the great ichthyological work planned by Cuvier, is one of the most natural in the animal kingdom. There is none that exhibits greater variety of dentition ; none in which such variation is accompanied by so little difference of form or anatomical peculiarities. In the group of the true Herrings or *Clupeæ*, as we shall restrict it, there are included seventeen distinct genera, which are almost entirely characterized by the different combinations, of teeth on the jaws and in the mouth, or the entire absence of them. There is no essential difference in the form of those teeth, and from their relative positions alone are the genera distinguished. We find in the subfamily almost every variety of dentition; almost all possible combinations from that exhibited by the genus *Rogenia*, of which the famous white bait of the English, is the type, to the genus of the Shads, in which there are no teeth in any part of the mouth. In *Rogenia*, we find teeth, more or less developed, on every bone that enters into the composition of the mouth, as well as on the tongue. There are vomerine, palatine, pterygoid and lingual teeth, and there are also less developed intermaxillary, supramaxillary and mandibular ones. In *Clupea* or the herrings, and in *Clupeoides* of Bleeker, and *Harengula* of Valenciennes, the dentition is almost as full; perhaps more perfect in the last, if we regard the size or development of the teeth. There is in each of those genera an absence of teeth on one set of the bones which enter into the composition of the mouth; all the others are provided with teeth as in *Rogenia*, but stronger on the jaws. In *Harengula*, the deficiency is of vomerine teeth; in *Clupeoides*, of maxillary,* and in the herrings, the pterygoid bones are destitute. In the last group the palatine bones have also only a few isolated ones on the outside, and these being readily deciduous, may be easily overlooked. From the herrings, we pass by *Kowala*, *Spratelloides* and *Sardinella* of Valenciennes, and our genera *Alausella* and *Pomolobus* to *Spratella*, in which there are teeth only on the palatines and tongue; *Meletta*, in which the tongue alone is furnished, and finally to *Alausa* of Valenciennes, and *Brevoortia* of Gill, in which all the bones, as well as the tongue, are edentulous. Notwithstanding this variation of dentition, so uniform is the shape of the body; so little modification is there of any other part or member, that we might, perhaps with propriety, if we did not look to the dentition, unite them all in one great genus. The only very sensible variation from the type as exhibited in the herring, is that which has furnished us with the genus *Brevoortia*. This genus, established on the well known and very abundant "Morsebunker" or "menhaden" of our eastern coast, is distinguished from almost all of its associates, by the large head, and the more backward position of the dorsal fin, which is situated over the interval between the ventral fins and the anal. These variations, in connection with the ciliated or deeply pectinated posterior margins of the scales, have appeared to us to be of generic importance. On that genus we have bestowed the name of *Brevoortia*, in honor of Mr. J. Carson Brevoort, the well known ichthyologist of New York.

In the subfamily of the *Clupeinæ*, we include both *Pellona* of Valenciennes, and *Pristigaster* of Cuvier, in a distinct group; these genera are distinguished from the true herrings, by the long anal fin, and in *Pellona* by generally more anterior position of the ventrals; the dorsal is usually situated nearer to the former than to the latter. As there is no gradation between the long anal of the *Pellona* and *Pristigasters* to the short one of the true herrings, and as the difference of the length gives a peculiar facies to each group, the section so distinguished appears to be natural. For the present at least, we may retain *Pellona* and *Pristigaster* together, notwithstanding the want of ventral fins in the latter. For the group thus formed we may employ the name of *Pellonæ*.

In retaining Valenciennes' name of *Pellona* for the group which he so designated, we are well aware that he had been anticipated by both Swainson and Gray, or rather Richardson. The former naturalist has characterized, as well at least as was customary with him in ichthyology, the genus to which he gave the name of *Platygaster*. That name we are prevented from employing, as it had been previously applied by Latreille to a valid genus of Hymenopterous insects, and it had also been used by Zetterstedt for a genus of Diptera, at nearly the same period as Swainson. A species of the same genus is also described by Sir John Richardson, in his Report " on the Ichthyology of the seas of China and Japan," as *Ilisha abnormis*. This name is attributed to Gray in a British Museum catalogue ; we have never seen a catalogue in which the name occurs. It was, indeed, probably manuscript: we do not therefore know what Dr. Gray intended by the name. As Richardson suggests, the name appears to be " evidently taken from the specific appellation of one of Buchanan Hamilton's *Clupea*." But the *Clupea ilisha* of that naturalist is a true *Alausa*. If that species was intended by Gray as the type of his genus, it should be regarded as a mere synonyme of *Alausa*. If, however, the generic name of *Ilisha* was first published by Richardson, perhaps it will have to be retained in his name, for either the whole genus, or that section inhabiting the old world, and embracing species whose body is more slender, and which have a less gibbous abdomen than the species of South America. As Valenciennes was the first to well restrict the genus and illustrate its affinities, we prefer to modify his generic name for the subfamily.

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*There are at least none mentioned as being present in the supramaxillary bones, by Bleeker, to whom we are indebted for our knowledge of the genus.

Group CLUPEÆ Gill.

Anal fin little longer than high, commencing some distance behind the vertical of the posterior rays of the dorsal, and nearly intermediate between the ventral and caudal fins.

A.

With no spurious dorsal or anal fins.

Genus I. CLUPEA (Linn.) Val.

Syn. Clupea *Val.* Hist. Nat. des Poissons, vol. xx., p. 28, 1847.

Body elongated and slender. Minute teeth on the intermaxillaries and near the symphysis of the dentaries. Supra-maxillaries delicately crenulated. More evident teeth in a longitudinal band on the vomer, and on the tongue. Several readily deciduous teeth on the external borders of the palatines.

Type. Clupea harengus *Linn.*

Syn. Clupea harengus *Val.* Hist. N. des Poissons, vol. xx., 30.

Genus II. SARDINELLA Val.

Syn. Sardinella *Val.* Hist. Nat. des Poissons, vol. xx., p. 28, 1847.

Body elongated and slender. Minute villiform teeth on the anterior extremity of the palatine bones, on the internal borders of the pterygoids, and on the tongue. Supramaxillaries occasionally scarcely crenulated near the extremities.

Type. Sardinella aurita *Val.* Hist. Nat. des Poissons, vol. xx., p. 263.

Genus III. ROGENIA Val.

Syn. Rogenia *Val.* Hist. Nat. des Poissons, vol. xx., p. 340, 1847.

Body elongated and slender. Very minute and almost imperceptible teeth on the intermaxillaries and dentaries ; stronger ones on the vomer, palatines, pterygoids and tongue.

Type. Rogenia alba *Val.*

Syn. Clupea alba *Yarrell.*

Genus IV. CLUPEONIA Val.

Syn. Clupeonia *Val.* Hist. Nat. des Poissons, vol. xx., p. 345.

Teeth only on the pterygoids, and in a longitudinal band on the tongue.

Type. Clupeonia Jussieui *Val.*

Syn. Clupanodon Jussieui *Lac.* Hist. Nat. des Poissons, vol. v, pp. 471, 474.

Genus V. HARENGULA Val.

Syn. Harengula *Val.* Hist. Nat. des Poissons, vol. xx. p. 277, 1847.

Body elongated and slender. Minute teeth on the intermaxillaries, dentaries, palatines, pterygoids and tongue. Supramaxillaries scarcely crenulated.

Type. Harengula latula *Val.*

Genus VI. CLUPEOIDES Bleeker.

Syn. Clupeoides *Bleeker*, Naturkundig Tijdschrift wor Nederlandsch Indie, vol. i. p. 274.

Body elongated and slender. Minute teeth on the intermaxillaries, dentaries, vomer, palatines, pterygoids and tongue.

Type. Clupeoides borneënsis *Bleeker.*

Genus VII. SPRATELLOIDES Bleeker.

Syn. Spratelloides *Bleeker*, Naturkundig Tijdschrift wor Nederlandsch Indie, vol. ix. p. 775.

Teeth on the intermaxillaries, dentaries, vomer and tongue.

Type. Spratelloides argyrotaenia *Bleeker.*

Genus VIII. SPRATELLA Val.

Syn. Spratella *Val.* Hist. Nat. des Poissons, vol. xx., p. 356.

Body elongated and slender. Teeth only on the palatine bones and tongue.

Type. Spratella pumila *Val.* Hist. Nat. des Poissons, vol. xx., p. 357, 1857.

Genus IX. KOWALA Val.

Syn. Kowala *Val.* Hist. Nat. des Poissons, vol. xx., p. 362.

Body elliptical. Teeth only on the jaws and pterygoids.

Type. Kowala albella *Val.*

Genus X. ALAUSELLA Gill.

Syn. Alausella *Gill*, Proceed.

Body oblong, ovate. Teeth in the intermaxillaries and dentaries scattered near the symphisis, and on the tongue. Supramaxillaries finely dentated.

Type. Alausella parvula *Gill.*

Syn. Clupea parvula *Mitchill.*

Genus XI. POMOLOBUS (Raf.) Gill.

Syn. Pomolobus *Raf.* Ichthyologia Ohiensis, p. 38, (fide Kirtland.)

Body elongated and slender. Teeth on the intermaxillaries, behind which, the gums are transversely and slightly sulcated. Few teeth at the symphysis of the lower jaw. Tongue with viliform teeth.

Type. Pomolobus chrysochloris *Storer ex Kirtland.*

Syn. Alosa chrysochloris *Kirtland.*

Genus XII. CLUPALOSA Bleeker.

Syn. Clupalosa *Bleeker*, Verhandelingen von het Bataviaasch Genootschap, vol. xxii., Ichth. Mad., pp. 12, 24.

Teeth only on the palatine bones. Lower jaw scarcely denticulated.

Type. Clupalosa bulan.

Genus XIII. MELETTA Val.

Syn. Meletta *Val.* Hist. Nat. des Poissons, vol. xx., p. 366.

Teeth only in a longitudinal row on the tongue. Dorsal fin with no produced posterior ray.

Type. Meletta vulgaris *Val.*

Genus XIV. OPISTHONEMA Gill.

Syn. Clupanodon *Lac.*, *partim*, Hist. Nat. des Poissons, vol.

Body oblong oval. Teeth in a longitudinal row on the tongue. Dorsal fin with its last ray filiform.

Type. Opisthonema thrissa *Gill.*

Syn. Clupanodon thrissa *Lac.*

Genus XV. ALAUSA (Cuv.) Val.

Syn. Alosa *Cuv.* Regne Animal
Alausa *Val.* Hist. Nat. des Poissons. vol. xx., p. 389.

Teeth absent, or only some small and easily caducous ones on the jaws. Scales not pectinated. Dorsal fin over the ventrals. Head of moderate size.

Type. Alausa vulgaris *Cuv.*

Syn. Alausa vulgaris *Val.* Hist. Nat. des Poissons, vol. xx., p. 391.

Genus XVI. BREVOORTIA Gill.

Syn. Brevoortia *Gill.*

Teeth absent. Scales pectinated on their posterior margins. Dorsal fin nearly over the interval between the ventrals and anal. Head very large.

Type. Brevoortia menhaden *Gill.*

Syn. Alausa menhaden *Val.* Hist. Nat. des Poissons, vol. xx., p. 424.

B.

Provided with true and spurious anal fins, entirely distinct from each other; the former of the normal size; the latter with two or more thick and well developed rays.

Genus XVII. CLUPEICHTHYS Bleeker.

Syn. Clupeichthys *Bleeker*, Naturkundig Tijdschrift voor Nederlandsch Indie, vol. ix., p. 274, 1855.

Intermaxillary bones prominent; the lower little longer than the upper, conspicuous teeth on the intermaxillary, supramaxillary, palatine and pterygoid bones, and in a median longitudinal band on the tongue.

A single species is found in the rivers of the island of Sumatra.*

Type. Clupeichthys goniognathus *Bleeker.*

Group PELLONÆ Gill.

Anal fin elongated, commencing under or anterior to the last rays of the dorsal, and near the ventrals.

a. Ventral fins present, and situated anterior to or under the first rays of the dorsal fin.

Genus XVIII. PELLONA Val.

Syn. Platygaster *Swainson*, Natural History of Fishes, Amphibians and Reptiles, vol. ii. p. 294, 1839. (Not Platygaster *Latreille.*)
Ilisha (Gray,) *Richardson*, Fifteenth Annual Report of the British Association. A.S.,
Pellona *Cuv. et Val.* Hist. Nat. des Poissons, vol. xx. p. 301.

Body compressed, varying in form; in the typical species, the abdomen is

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*Buchanan Hamilton, in his " Account of the Fishes found in the river Ganges and its branches," p. 236, has described a Clupeoid which has also two fins, the last provided with four rays, but there are said to be no teeth. It has been referred to a new genus and called *Corica sobrona.* If it is true that there are no teeth, the species can not be congeneric with *Clupeichthys goniognathus.* The work of Hamilton is not at present accessible to us.

very convex, but in most, the shape resembles that of the true Clupeoids. Bands of teeth on the intermaxillary, maxillary, dentary, palatine and pterygoid bones, and on the tongue, most of which are very small and almost imperceptible.

The genus is represented by species in the rivers and seas of South America, Asia and Africa. Those of South America have the abdomen very convex; in those of the Old World, it is much less so.

Type. Pellona Orbignyana *Val.*

b. Ventral fins absent.

Genus XIX. Pristigaster Cuv.

Syn. Pristigaster *Cuv.* Regne Animal, vol. ii.
Pristigaster *Val.* Hist. Nat. des Poissons, vol. xx. p. 326.

Body compressed, with the back slightly arched, and with the abdomen very convex, and strongly serrated. Teeth present on the intermaxillary, maxillary, dentary, palatine and pterygoid bones, as well as on the tongue. Dorsal fin higher than long, situated on the anterior half of the back. Lateral line straight.

The genus as now restricted contains only the South American species, distinguished by the scarcely arched back and very convex belly. The Indian species belong to another genus.

Type. Pristigaster cayanus *Cuv.*

Genus XX. Opisthopterus Gill.

Syn.? Apterygia *Gray*, Illustrations of Indian Zoology.
Pristigaster sp. *Val.*, Hist. Nat. des Poissons, vol. xx.

Body compressed with the nape saillient, and the back convex; the abdomen convex, and strongly serrated. Teeth present on the intermaxillary, maxillary, dentary, palatine and pterygoid bones, and on the tongue. Dorsal fin low and small, situated at the end of the second third of the back's length.

Type. Opisthopterus tartoor *Gill.*

Syn. Pristigaster tartoor *Val.*, Hist. Nat. des Poissons, vol. xx. p. 328.

Descriptions of Twenty-five New Species of UNIONIDÆ from Georgia, Alabama, Mississippi, Tennessee and Florida.

BY ISAAC LEA.

Unio fabaceus.—Testâ lævi, oblongâ, subquadratâ, subinflatâ, posticè subbiangulatâ, subæquilaterali; valvulis crassiusculis, anticè crassioribus; natibus prominulis; epidermide tenebroso-fuscâ, micante, obsoletè radiatâ; dentibus cardinalibus parvis, erectis, acuminatis, crenulatis; lateralibus curtis, lamellatis subcurvisque; margaritâ purpurascente, salmonis colore tinctâ et valdè iridescente.

Hab.—Oostanaula River, Georgia. Bishop Elliott.

Unio irrasus.—Testâ lævi, rotundo-trigonâ, inflatâ, posticè obtusè angulatâ, anticè rotundâ; valvulis subcrassis, anticè crassioribus; natibus subelevatis, crassis; epidermide luteo-fuscâ, vel obsoletè radiatâ vel eradiatâ; dentibus cardinalibus crassis, elevatis, subcompressis crenulatisque; lateralibus curtis, crassis, obliquis rectisque; margaritâ argenteâ et iridescente.

Hab.—Etowah River, Georgia. Rev. G. White.

Unio Ocmulgéensis.—Testâ lævi, transversâ, inflatâ, posticè obtusè biangulatâ, anticè subtruncatâ, valdè inæquilaterali; valvulis crassis, anticè crassioribus; natibus prominulis; epidermide tenebroso-fuscâ, eradiatâ, supernè micante, infernè valdè striatâ; dentibus cardinalibus parviusculis, pyramidatis

striatisque; lateralibus prælongis, lamellatis subrectisque; margaritâ argenteâ et iridescente.
Hab.—Little Ocmulgee River, Lumber City, Georgia. S. W. Wilson, M. D.

Unio cicur.—Testâ lævi, oblongâ, subinflatâ, ad latere subplanulatâ, posticè rotundatâ, valdè inæquilaterali; valvulis tenuibus subdiaphanis; natibus subprominentibus, ad apices undulatis; epidermide olivaceâ, eradiatâ; dentibus cardinalibus parvissimis, compressis subrectisque; lateralibus longis, prætenuis, lamellatis subrectisque; margaritâ cæruleâ et valdè iridescente.
Hab.—Little Ocmulgee River, Georgia. S. W. Wilson, M. D.

Unio crapulus.—Testâ lævi, obliquâ, ventricosâ, ad umbones valdè tumidâ, valdè inæquilaterali, posticè rotundatâ, anticè truncatâ; valvulis percrassis, anticè crassioribus; natibus valdè prominentibus crassisque; epidermide luteo-fuscâ, eradiatâ; dentibus cardinalibus percrassis, pyramidatis, corrugatis, in utroque valvulo duplicibus; lateralibus percrassis, corrugatis, obliquis subcurvisque; margaritâ albâ et paulisper iridescente.
Hab.—Etowah River, Georgia. Rev. G. White.

Unio Beadleianus.—Testâ lævi, subrotundâ, ventricosâ, subæquilaterali, anticè rotundatâ, posticè obtusè angulatâ; valvulis crassis, anticè crassioribus, natibus subelevatis, incurvis; epidermide tenebroso-fuscâ, obsoletè radiatâ; dentibus cardinalibus magnis, erectis, compressis corrugatisque; lateralibus crassis, curtis corrugatisque; margaritâ vel albâ vel roseâ, et iridescente.
Hab.—Pearl River, Jackson, Mississippi. Rev. E. R. Beadle.

Unio Chickasawhensis.—Testâ, lævi, subrotundâ, subcompressâ, sublenticulari, inæquilaterali, posticè obtusè angulatâ, anticè rotundâ; valvulis crassiusculis, anticè paulisper crassioribus; natibus prominulis; epidermide tenebroso-fuscâ, eradiatâ, excillissimè striatâ; dentibus cardinalibus parviusculis, pyramidatis, corrugatis crenulatisque; lateralibus brevibus, subvalidis subcurvisque; margaritâ rosaceâ et valdè iridescente.
Hab.—Chickasawha River, Mississippi. W. Spillman, M. D.

Unio cinnamomicus.—Testâ lævi, ellipticâ, inflatâ, ad umbones tumidâ, inæquilaterali, posticè angulatâ, anticè rotundâ; valvulis subcrassis, anticè crassioribus; natibus subprominentibus; epidermide cinnamomicâ, infernè striatâ, eradiatâ, dentibus cardinalibus parviusculis, erectis, subcompressis crènulatisque, lateralibus curtis subrectisque; margaritâ albidâ et valdè iridescente.
Hab.—Tombigbee River, Columbus, Mississippi. W. Spillman, M. D.

Unio pauperculus.—Testâ lævi, subrotundâ, subcompressâ, subequilaterali, posticè subrotundâ, anticè rotundâ; valvulis subcrassis, anticè crassioribus; natibus prominulis; epidermide luteo-corneâ, eradiatâ; dentibus cardinalibus magnis, elevatis, decussatis; lateralibus brevissimis, obliquis rectisque; margaritâ albâ et iridescente.
Hab.—Stream near Columbus, Mississippi. W. Spillman, M. D.

Unio Spillmanii.—Testâ lævi, ellipticâ, subinflatâ, inæquilaterali, posticè obtusè angulatâ, anticè rotundatâ; valvulis subcrassis, anticè paulisper crassioribus; natibus prominulis; epidermide tenebroso-fuscâ vel luteo-fuscâ, ad umbones nitidâ, radiatâ; dentibus cardinalibus crassiusculis, obtusè pyramidatis, corrugatis; lateralibus longis, crassis corrugatisque; margaritâ vel albâ vel salmonis colore tinctâ et valdè iridescente.
Hab.—Luxpalila Creek, near Columbus, Mississippi. W. Spillman, M. D.

Unio flavidulus.—Testâ lævi, ellipticâ, subinflatâ, valdè inæquilaterali, posticè obtusè angulatâ, anticè rotundâ; valvulis subtenuibus, anticè crassioribus; natibus prominulis; epidermide vel luteo-fuscâ vel luteo-viridi, eradiatâ; dentibus cardinalibus parviusculis, erectis, compressis, in utroque valvulo duplicibus; lateralibus sublongis, lamellatis subrectisque; margaritâ albâ et iridescente.

Hab.—Stream near Columbus, Mississippi. W. Spillman, M. D.

Unio anaticulus.—Testâ lævi, obliquâ, ad umbones valdè tumidâ, anticè truncatâ, posticè obtuse angulatâ, valdè inæquilaterali; valvulis crassiusculis, anticè crassioribus; natibus elevatis, crassis, incurvis, ferè terminalibus; epidermide castaneâ, vittatâ, obsoletè radiatâ, dentibus cardinalibus subcrassis, subpyramidatis crenulatisque; lateralibus crassis, obliquis subrectisque; margaritâ argenteâ et iridescente.

Hab.—Near Columbus, Mississippi. W. Spillman, M. D.

Unio rubidus.—Testâ sulcatâ, subtriangulari, valdè inflatâ, ad laterè planulatâ, subæquilaterali, valvulis subcrassis, anticè crassioribus; natibus subprominentibus, subinflatis; epidermide tenebroso-rufo-fuscâ, eradiatâ, supernè micanti, infernè striatâ; dentibus cardinalibus crassiusculis, elevatis, subpyramidatis crenulatisque; lateralibus sublongis, curvis subcrassisque; margaritâ vel rosaceâ vel albâ vel salmonis colore tinctâ et iridescente.

Hab.—Tombigbee River, Mississippi. W. Spillman, M. D.; Coosa River and Big Prairie Creek, Alabama. E. R. Showalter, M. D.

Unio decumbens.—Testâ lævi, arcuatâ, valdè compressâ, ad laterè planulatâ, inæquilaterali, posticè biangulatâ, anticè rotundâ; valvulis subtenuibus, anticè et posticè paulisper crassioribus; natibus prominulis; epidermide tenebroso-rufo-fuscâ, obsoletè radiatâ, transversè striatâ; dentibus cardinalibus minimis, subcompressis, in utroque valvulo duplicibus; lateralibus prælongis, arcuatis; margaritâ purpurascente, et valdè iridescente.

Hab.—Alabama. E. R. Showalter, M. D.

Unio germanus.—Testâ lævi, ellipticâ, subinflatâ, inæquilaterali, posticè subbiangulatâ, anticè rotundâ; valvulis crassiusculis, anticè crassioribus; natibus subprominentibus, ad apices concentricè rugoso-undulatis; epidermide tenebroso-fuscâ, eradiatâ, transversè striatâ; dentibus cardinalibus parvis, erectis, compressis, crenulatis, acuminatis; lateralibus tenuibus subcurvisque; margaritâ purpurascente et valdè iridescente.

Hab.—Coosa River, Alabama. E. R. Showalter, M. D.

Unio Lewisii.—Testâ lævi, subrotundâ, suborbiculari, subæquilaterali; valvulis crassissimis, anticè crassioribus; natibus elevatis, tumidis incurvisque: epidermide luteolâ, punctatâ; dentibus cardinalibus crassissimis, erectis crenulatisque; lateralibus crassissimis, brevibus et obliquis; margaritâ albâ et iridescente.

Hab.—Coosa River, Alabama. E. R. Showalter, M. D.

Unio medius.—Testâ lævi, obliquâ, valdè inflatâ, valdè inæquilaterali, posticè obtusè angulatâ, anticè obliquè rotundatâ; valvulis crassis, posticè crassioribus; natibus elevatis, tumidis; epidermide fuscâ, maculatâ, infernè striatâ, supernè micanti; dentibus cardinalibus crassis, pyramidatis crenulatisque; lateralibus crassis, rectis brevibusque; margaritâ argenteâ et iridescente.

Hab.—Near Uniontown, Alabama. E. R. Showalter, M. D.

Unio concolor.—Testâ lævi, obliquè ellipticâ, subinflatâ, inæquilaterali, posticè subbiangulatâ, anticè rotundâ; valvulis subcrassis, anticè crassioribus; natibus subprominentibus; epidermide tenebroso-olivâ, eradiatâ, ad umbones nitidâ, infernè striatâ; dentibus cardinalibus crassiusculis, erectis, obtusè compressis; lateralibus sublongis, obliquis subrectisque; margaritâ albâ et iridescente.

Hab.—Big Prairie Creek, Alabama. E. R. Showalter, M. D.

Unio verus.—Testâ lævi, subtriangulari, subcompressâ, valdè inæquilaterali, posticè ferè rotundâ, anticè rotundâ; valvulis crassiusculis, anticè crassioribus; natibus elevatis; epidermide tenebroso-olivâ, eradiatâ, maculatâ, vittatâ, ad umbones micanti, infernè striatâ; dentibus cardinalibus parviusculis, compresso-pyramidatis striatisque; lateralibus, subbrevibus, obliquis subrectisque; margarita albâ et iridescente.

Hab.—Cahawba River, Perry Co., Alabama. E. R. Showalter, M. D.

Unio asperatus.—Testâ valdè tuberculatâ, subrotundâ, inflatâ, anticè et posticè rotundâ, subequilaterali; valvulis crassis, anticè crassioribus; natibus valdè prominentibus; epidermide rufo-luteâ, eradiatâ; dentibus cardinalibus percrassis, obtuso-conicis, corrugatis; lateralibus brevissimis, valdè obliquis rectisque; margaritâ argenteâ et iridescente.

Hab.—Alabama River, Claiborne, Alabama. Judge Tait.

Unio ornatus.—Testâ lævi, subrotundâ, compressâ, inæquilaterali, posticè subrotundâ, anticè rotundâ; valvulis crassiusculis, anticè crassioribus; natibus subprominentibus, ad apices rugoso-undulatis; epidermide melleâ, viridi maculatâ, supernè nitidâ, infernè striatâ; dentibus cardinalibus parviusculis, sulcatis; lateralibus brevibus, obliquis rectisque; margaritâ argenteâ et valdè iridescente.

Hab.—Alabama? T. R. Ingalls, M. D.

Unio perpurpureus.—Testâ lævi, ellipticâ, subinflatâ, inæquilaterali, posticè et anticè rotundatâ; valvulis subcrassis, anticè crassioribus; natibus prominulis; epidermide tenebroso-viridi, nigricente, radiis capillaris; dentibus cardinalibus parviusculis, erectis, conicis, in utroque valvulo duplicibus, striatis; lateralibus longis rectisque; margaritâ valdè purpureâ et iridescente.

Hab.—Tennessee. J. G. Anthony.

Unio Anthonyi.—Testâ lævi, ellipticâ, inflatâ, ad laterè planiusculâ, posticè obtusè biangulatâ, posticè rotundatâ, inæquilaterali; valvulis subtenuibus, anticè paulisper crassioribus; natibus prominulis; epidermide luteo-olivâ, eradiatâ; dentibus cardinalibus parvis, obliquis, subcompressis crenulatisque; lateralibus longis, lamellatis subcurvisque; margaritâ cæruleo-albâ et iridescente.

Hab.—Florida. J. G. Anthony.

Margaritana quadrata.—Testâ lævi, oblongâ, subcompressâ, ad laterè planulatâ, subæquilaterali, posticè obtusè angulatâ, anticè rotundâ; valvulis subtenuibus, anticè paulisper crassioribus; natibus prominulis, ad apices undulatis; epidermide luteolâ, viridi-radiatâ; dentibus cardinalibus subgrandibus, obliquis, compressis, triangularis, erectis subcurvisque; margaritâ albâ, supernè salmonis colore tinctâ, et valdè iridescente.

Hab.—East Tennessee, President Estabrook.

Margaritana Alabamensis.—Testâ lævi, oblongâ, inflatâ, ad laterè paulisper planulatâ, inæquilaterali, posticè obtusè biangulatâ, anticè oblique rotundatâ; valvulis subcrassis, anticè paulisper crassioribus; natibus prominulis, ad apices rugoso undulatis; epidermide luteo-olivâ, politâ, eradiatâ; dentibus cardinalibus parvis, suberectis; margaritâ albâ et salmoniâ et iridescente.

Hab.—Talladega Creek, Alabama. W. Spillman, M. D.

Descriptions of New Recent Shells from the Coast of South Carolina.

BY EDMUND RAVENEL, M. D.

Columbella similis.

This has generally been considered the young or immature shell of "C. *avara*." The *avara* is a larger shell, and has fewer and much larger ribs at the upper portion of the body whorl. It has about 11 ribs; whereas this shell has often as many as 20 ribs, but the number varies. The *avara* never has all of the

whorls decidedly ribbed; the larger ribs are usually confined to the body whorl, sometimes extending to the second; but above this, there is a space embracing one or more whorls, which is smooth or slightly wrinkled, and the two or three upper whorls are regularly ribbed to the apex. With the "*similis*," the ribs on the body whorl are more numerous, smaller and more regular generally, and occupy more of the whorl, and generally all of the whorls are regularly ribbed to the apex. The general appearance of the two shells differs, one being always smaller than the other. The revolving striæ are very similar in the two shells; the same may be said of the coloring, the "*similis*" being the most prettily mottled. It must, however, be acknowledged, that the two run into each other so nearly, that occasionally, it is not easy to determine a specimen. The uncertainty is increased by the difficulty in following up a series from the very young to the mature state of either. I have not been able to compare the animals; common on the coasts of North and South Carolina.

Columbella translirata.

Shell elevated, conical, sharp at the apex; whorls nine, nearly flat, rather closely ribbed, ribs and interspaces about equal, with five equidistant revolving striæ, from the anterior canal to the apex. Upon the upper whorls, one line is lost at the suture, where the whorls seem to overlap as they ascend; the body whorl is much the largest, and is angulated from opposite the posterior end of the aperture, revolving to near the centre of the outer lip; to this angle the ribs are half the number that are upon the whorl immediately above, and at the suture are nodulous; the nodules being generally white, give a decided character to the shell. Below this angle the ribs are much less decided, and again resume their original number, and by holding the canal towards the eye, the intermediate rib can be traced, running up between the larger ones, gradually becoming obsolete; and below this angle the revolving striæ become more numerous and more decided, crossing the ribs so as to produce a reticulated appearance, except as they approach the end of the anterior canal, where the ribs cease and the revolving striæ alone are to be seen.

Aperture moderate, oblong, rather narrow, very little hollowed on the pillar lip; pillar callus with obsolete denticulations; outer lip not decidedly thickened, denticulate slightly within.

Color varying from a light straw to a dark brown, with the ends of the ribs at the suture of the body whorl and at the angle on this whorl, white. Some of the specimens have blotches of white, which give the whole shell a mottled appearance. It is larger than *C. avara* Say, being nearly an inch in length. This shell and "*C. similis*," are allied to "*C. avara*," but are very distinct. They belong to the group of which *C. avara* Say is the type.

From the stomachs of fish off Charleston bar, and is more abundant than any species obtained from this source as yet. Dr. Stimpson found it at Beaufort, N. C.

Columbella iontha.

Shell fusiform, strong, small, with nine flat, ribbed whorls, white, with brown blotches and lines. Suture deep and distinct, both the upper and lower edges of the whorls being chamfered; the ribs on the body whorl near the aperture less distinct than on other parts of the shell; anterior portion of this whorl with numerous revolving striæ: these impressed striæ give place to colored lines as they ascend, and these are continued more or less distinct to the apex, being visible only as they cross the ribs and not in the intermediate spaces, except here and there, where being more deeply colored and descending between the ribs, produce the blotches which mark the shell.

The aperture is small, rather wide in proportion, the pillar lip much hollowed above, suddenly becoming straight to form the canal; outer lip considerably enlarged, denticulated sparsely within; length a little over ¼ of an inch.

This is a very pretty little shell, allied to the group which embraces

C. pulchella Sow. and *C. Jaspidea* Sow., of West Indies; this species being more elongated.

A single specimen obtained from the stomach of a blackfish, off Charleston bar.

COLUMBELLA NIVEA.

Shell small, delicate, elongated-conic, white, immaculate, smooth, polished. prettily striated on the outer part of the canal, lower whorl longer than the spire, suture distinct, with one white revolving line a little below it on the whorls, like a double suture; pillar covered with callus, much hollowed, suddenly becoming straight to form the canal; callus ends in a distinct edge; outer lip a little thickened, sparsely denticulated within, the posterior tooth being decidedly the most prominent.

This is a pretty little shell, allied to *Buccinum rosaceum* Gould, and *C. lunata* Say.

A single specimen was taken from the stomach of a fish off Charleston bar.

NASSA CONSENSA.

Shell ovate-conical, ribbed and crossed by numerous revolving striæ; whorls 7, and the apex; whorls rounded, with eleven strong ribs; suture deep. Scolloped by the ribs; revolving striæ crossing the ribs, as well as the interstitial spaces.

Aperture nearly oval, outer lip much thickened, denticulate within, the largest tooth being in the form of a ridge; next the canal; pillar much hollowed; with slight callus above, which is much thickened to form the canal, canal short oblique, turned backwards; the lower portion of the pillar which turns out of the aperture to form the canal is quite white with crowded, inconspicuous, revolving striæ; on the pillar at the edge of the canal there is one deep groove.

Color of the shell generally yellowish-brown, with a narrow deep brown band immediately next the white projection at the canal; next to this, on the body whorl, is a much wider band of lighter brown, which revolves at the suture to the apex of the shell; all other portions of the shell are marked by delicate lines more or less grouped, of yellowish-brown. On the thickened portion of the outer lip these lines are here and there more deeply colored in spots.

This is a very pretty shell; a single specimen was found in a fish off Charleston bar; 14 fathoms.

It resembles *N. incrassata* of England, and we have seen it in collections labelled "*N. ambigua* Moret, West Indies."

DRILLA ELOZANTHA.

Shell robust, conico-cylindrical, with ten whorls, which are bi-carinate, by being deeply grooved immediately above the suture, and again in the upper half of the whorl. The ridge left between these grooves is ornamented by ten strong, yellow, smooth, shining tubercles; the upper edge of the whorl is again bevelled, forming the second carina, which is not at all nodulous. Below the nodulous carena on the body whorl, there are obsolete ribs, crossed by four nodulous ridges, the first touching the tubercles of the principal carina; below these there are eight others, some of which are obscurely nodulous; on all parts of the shell not occupied by the tubercles or carina, there are numerous fine equidistant striæ, requiring the glass to bring them to view.

The aperture small, outer line made oblique by the deep sinus of the thick outer lip, just below the suture; the pillar is nearly straight, with a strong callus, the edge of which is thick and well defined.

Color deep brown, generally, becoming a little lighter from the tubercles to the suture, embracing the upper carina; near the extremity of the canal there is a lighter colored band, taking in three of the ridges; beyond that to the extremity is again almost black. This shell is allied to the "*P. ornata*" d'Orbigny; the *ornata* has 12 tubercles, the whorls, "bipartitis, antice, albidis, postice, zona, fulva notatis." The figure corresponds less than the description, with the present species.

Obtained from stomachs of fish off Charleston bar; the three specimens found correspond accurately; all dead.

M. d'Orbigny describes another species of this group "*P. albo-maculata*," but it cannot be confounded with the others.

LIOCARDIUM PICTUM.

Shell ovate, triangular, very oblique somewhat compressed, smooth, polished, with a few obsolete ribs at each end, and obsoletely waved by the lines of growth; beaks small, prominent, nearly touching, very much in advance of the centre, anterior end short, regularly curved, posterior end produced, somewhat angular.

Color reddish-brown, in zig-zag spots and blotches upon a white ground. Internally polished, of a reddish-brown, clouded, with some patches of yellow, and a little white, with obscure ribs, which become more conspicuous near the margin, crenulating the entire margin.

Length 0·78 in., breadth 0·7 in.

This is a very pretty shell, much more compressed, a little thicker and stronger than "*C. Mortoni.*" Taken from the stomachs of fish off Charleston bar. Many imperfect specimens were obtained; the gastric fluids seem to act readily upon it and remove the polish and color very soon; many of the valves were still held together by the ligament, when the substance of the shell was almost destroyed. It is more oblique than *L. serratum.*

LITHODOMUS FORFICATUS.

Shell thin, fragile, white; from about the middle to the anterior end covered with a thin calcareous coat; from this to the posterior end quite white. Beaks very near the anterior end, but not terminal; posterior end produced, much elongated, terminating in a narrow projection on each valve, from the double margin on one valve and from the basal margin on the others so arranged that when the shell is closed, these projections cross each other, resembling somewhat the claw of a crab. Anterior end round, and when the shell is closed it is cylindrical from the anterior end as far as an angle on the dorsal margin, just posterior to the termination of the ligament; from this point it tapers gradually to the end of the shell proper, where the projections are formed by the sudden scooping out of the valves, the one above and the other below.

Within light, salmon color, shining and iridescent, the projecting points are entirely white.

This interesting shell was found imbedded in a mass of coral drawn up by a fishing line from the "Blackfish Banks," off Charleston bar, 14 fathoms. There was quite a colony of them in the thicker part of the coral, most of them small, about ½ inch; the largest specimen removed was about 1¼ inch. The shell was completely imbedded in a cavity of its exact form, only a little larger, quite smooth within, communicating with the exterior by a small, short, open tube, through which the white points protruded. Upon breaking open the cavity, the shell was found attached by a byssus.

Synopsis of the Subfamily of PERCINÆ.

BY THEODORE GILL.

The present synopsis of the fishes of the subfamily of *Percinæ* has resulted from the investigations made of the comparative characters of the genera and species of *Labraces*. It was originally prepared for Captain J. H. Simpson's forthcoming report of his Explorations across the continent in the years 1858—

1859, but it has been deemed advisable to have it published in the Proceedings of the Academy.

The family of Percoids, as finally restricted by Cuvier in the second edition of his "Regne Animal," contained too unlike and heterogeneous an assemblage of genera to be deemed a natural one. The section chiefly embracing the species of the old Linnean genus *Perca* having seven branchiostegal rays, have a strong family resemblance, with, perhaps, the exception of the genera *Apogon* and *Chilodipterus* of Lacepede, *Pomatomus* of Risso, and *Ambassis* of Commerson. The last mentioned genera, although placed in the section with two dorsal fins and seven branchiostegal rays, and interposed between genera of the subfamily of *Percinæ* as here accepted, do not appear to be very nearly related to those fishes.

On the other hand, the genera *Pomotis* Cuv., *Centrarchus* Cuv., and *Dules* Cuv. and Val., placed in the section of the family with less than seven branchiostegal rays and with a single dorsal fin, appear to be natural allies of the *Percinæ*, but at the same time distinguished by some well marked peculiarities.

Of the remaining genera of the Cuvieran Percoids, *Cirrhites* of Commerson and *Chironemus* of Cuvier form a natural family, to which should perhaps be also referred the *Chilodactyli* of Lacepede placed by Cuvier in his family of *Sciænoids*.

The *Priacanthi* of Cuvier appear to be either members of the family of *Holocentroids*, or perhaps, more properly, form a family by themselves related to the former.

The genera *Therapon*, *Datnia*, *Pelates* and *Helotes* of Cuvier and Valenciennes are also natural associates and belong to a peculiar group.

The *Trichodons* of Steller, as well as the *Trachini* of Linnæus, should be also withdrawn from the Percoids, and may perhaps belong to one family, for which Bonaparte's name of *Trachinoidæ* must be retained.

The genera *Percis*, *Pinguipes*, *Sillago* and *Percophis* of Cuvier certainly do not belong to the family of Percoids. They seem to be quite nearly allied to each other, and to the *Trachinoids*.

The *Uranoscopi* of Linnæus form a very natural family, whose affinities are apparently with the Sclerogenoid *Synancheoids* and the *Blennoids*.

The *Holocentri*, *Myripristes* and *Beryces* have been by most modern naturalists regarded as belonging to a family quite distinct from the Percoids. To the same family has been also referred the genus *Trachichthys* of Shaw, but which may possibly also be the type of a distinct but nearly allied family.

The third division of Cuvier or the abdominal Percoids have also been long since taken from that family and distributed among several distinct ones.

After these numerous subtractions, the family of *Percoids* is still one of the richest in genera and species of the class. It is, at the same time, one of the most natural and most universally distributed. Representatives are found in the fresh water streams and lakes, or along the shores of almost every country on the globe, but the family attains its highest development in the tropical seas. So similar are many of the species found in the most distant regions, that the eye of a naturalist accustomed to the examination can alone detect differences. Species of the same genus are found alike on each side of the Atlantic Ocean, in the Caribbean Sea, on the Western coast of tropical America, and on all the coasts of temperate and tropical Asia and Africa.

While the marine species are thus numerous and similar in the tropical regions of the globe, the fresh water species attain their greatest development in number and variety in the temperate zones. Two genera are represented by closely related species in Europe and North America. Others are peculiar to Europe and are balanced in North America by genera characteristic of that country. The preponderance of both generic types and of species is greatly in favor of the "New World." The genera thus peculiar to the different countries are not typical members of the family, but always more or less aberrant. In Europe, are found the *Acerinæ* represented by the genus *Percis* of Klein or *Acerina* of Cuvier; the *Percarinæ* represented by a single genus and species, and the still more aberrant subfamily of *Asperulinæ* with the genus *Asperulus* of Klein or *Aspro* of Cuvier.

As an offsett to the European genera, there is found in the fresh waters of the United States, a subfamily containing eight genera and numerous species. The genera which America shares in common with Europe are also more developed in the former country than in the latter, and there are species of two allied genera of which no representatives are found in Europe.

It has been already remarked that the family of Percoids is represented in Europe by three peculiar tribes or subfamilies. In North America there are only two. In the number of widely distinct forms, Europe is therefore richer than America. For the differences existing between the *Grystinæ* and the *Percinæ* can scarcely be considered as of greater value than those between the *Percinæ* on one hand and the *Acerinæ* and *Asperuli* on the other. The differences between the two latter are equally well defined, and it is perhaps doubtful if those genera belong to even the same family as the typical Percoids. But if the family of Percoids has more varied types in the old world, that one found in the new exhibits far more numerous modifications, which indicate generic and specific value.

We now proceed to exhibit the characters of the subfamily of *Percinæ* and give a synopsis of all the known genera.

PERCINÆ (Bon.) Gill.

The body is elongated or oblong ovate, more or less compressed. The head in profile is more or less elongated, conical and compressed. The eyes mostly or entirely in the anterior half of the head, are generally of large size. The mouth is large or moderate, with the gape extending at least to the anterior margin of the eye. The teeth are generally villiform, rarely canine, and cover the jaws, vomer and palatine bones. The intermaxillary bones have very short ascending processes, and are scarcely protractile. The nostrils are two on each side, forming the angles of a transversely oblong or elongated quadrangle; the anterior nostrils are subtubular, and the posterior simple apertures. The opercular bones are more or less pectinated or armed with teeth; the operculum terminates in generally one or more spiniform processes. The branchiostegal membrane is very deeply emarginated, the sinus extending to between the corners of the mouth; there the membranes of opposite sides appear to be folded across each other, and leave a very narrow free margin; there are seven branchiostegal rays on each side, decreasing in size quite uniformly to the external. The scales are of moderate or small size, and on the trunk are pectinated and with a narrow muricated border; those on the head are either pectinated or cycloid; the scales on the cheeks are smallest, and occasionally scarcely perceptible. The dorsals are two in number, and are either entirely disconnected or united at the base by a low membrane: the first dorsal is well developed, and supported by from seven to fifteen spines, the longest of which generally equal the height of the second dorsal. The anal fin is generally shorter than the second dorsal; it has two or three spines and from six to thirteen branched rays. The pectorals are of small or moderate size, in the normal percoid position on the humeral cincture, and have rounded margins. The ventrals are also of moderate size and situated behind the bases of the pectorals; they have each one spine and five gradually decreasing branched rays; the innermost ray is free from the abdomen, or scarcely connected to it by an axillar membrane.

The subfamily of *Percinæ* as thus limited is a very natural one. Its characters in many respects correspond to those of the first group of the Percoids of Günther, called by him *Percina*, but several genera are introduced into the latter which destroy the natural character of the group. The genus *Paralabrax* of Girard belongs more properly to the *Serraninæ*, as does also *Etelis* of Cuvier and Valenciennes. On the systematic value of *Acerinæ* and *Aspro*, we have already remarked. *Boleosoma* and *Pileoma* of Dekay are certainly not natural members of the *Percinæ*, nor can they even be properly regarded as belonging to the same family; they are more nearly allied to the *Gobioids*. Finally, *Enoplosus* of Cuvier appears to be the type of a distinct subfamily.

The *Percinæ*, although represented by many generic forms, are not numerous in species. Many of them are found in fresh water, and probably all of them ascend rivers for a short distance, at some period of the year or are found at their mouths.

The following scheme is supposed to show nearly the natural order and characters of the known genera. As several of them have not been seen by us, we remain in doubt as to their natural position.

§ I.

Intermaxillary and palatine bones provided with some large teeth, arranged in rows; rest of the teeth villiform. Tongue toothless.

Genus Stizostedion (Raf.) Girard.

Les Sandres *Cuv.*, Regne Animal, ed. i. vol. ii. p. 294, ... 1817.
Stizostedion *Raf.*, Ichthyologia Ohiensis, p. 23, ... 1820.
Lucioperca *Cuv. et Val.*, Hist. Nat. des Poissons, vol. ii. p. 110, . 1828.
Sandrus *Stark*, Elements of Natural History, vol. i. p. 465, . . . 1828.

Body slender, elongate-fusiform, covered with scales arranged in oblique rows. Head semiconical, quite broad, with the cheeks and opercula generally covered with scales; isolated patches of scales on the sides of the posterior part of the head; rest of the head covered with a naked skin. Preoperculum serrated; operculum armed with from one to five spines. Dorsal fins two; the first supported by from twelve to fifteen spines.

This genus is peculiar to the fresh water streams, rivers and lakes of North America and Europe.

§ II.

Intermaxillary, vomerine and palatine bones provided only with villiform teeth.

A.

Pseudobranchiæ present.

a.

Head with its superior surface scaleless, or only with two scaly areas on each side of the posterior part. Anterior dorsal fin provided with from seven to fifteen spines. Tongue without teeth.

*

Lateral line linear, ceasing at the base of the caudal fin.

Genus Perca Linn., Cuv.

Perca sp. *Linn.*, Systema Naturæ.
Perca sp. *Cuv. et Val.*, Hist. Nat. des Poissons, vol. ii.
Perca *Günther*, Catalogue of the Acanthopterygian Fish, &c., vol. i. p. 62.

Body elongate-fusiform. Head conical in profile, covered on the cheeks and preoperculum, suboperculum and upper part of the operculum with cycloid scales of moderate size. Operculum generally naked and radiatedly striated. Preoperculum with its anterior margin well defined and entire, and its true margin serrated posteriorly, and inferiorly armed generally with teeth curved forwards. Operculum with a single spine. Suborbital bone entire. Suprascapular, scapular and coracoid bones serrated. Dorsal fins entirely disconnected; the first provided with from twelve to fifteen spines. Anal fin furnished with two spines.

This genus, of which the common Yellow Perch is the type, is peculiar to Europe and North America. Its species are not yet well defined or known.

Type. Perca fluviatilis *Linn.*

Genus Kuhlia Gill.

Perca sp. *Cuv. et Val.*, Hist. Nat. des Poissons, vol. ii. p. 52.

Percichthys sp. *Günther*, Catalogue of the Acanthopterygian Fish, &c., vol. i. p. 62.

Body elongated, fusiform. Head conical. Anterior dorsal fin sustained by nine spines; the posterior with a spine and about eleven articulated rays.

A single species is known; it is peculiar, so far as known, to the Island of Java.

Type. Kuhlia ciliata *Gill.*

Syn. Perca ciliata *Cuv. et Val.*

Genus Niphon *Cuv. et Val.*

Niphon *Cuv. et Val.*, Hist. Nat. des Poissons, vol. ii. p. 131.

Body elongated and subfusiform. Head oblong-conical in profile. Lower jaw longer. Preoperculum posteriorly serrated, armed below with anteriorly recurved spines, and at the angle with a large horizontal one. Operculum with three strong spines. Suborbital bone serrated. Dorsal fins connected at the base by a little elevated membrane; the anterior with twelve spines. Anal fin with three moderate spines. A single species is found in the Chinese and Japanese seas.

Type. Niphon spinosus *Cuv. el Val.*

* *

Lateral line elevated and continued between the median rays to the margin of the forked caudal fin.

Genus Centropomus (Lac.) Cuv.

Labrax sp. *Klein.*

Centropomus sp. *Lacepede*, Hist. Nat. des Poissons, vol. iv. p. 248.

Centropomus *Cuv.*, Regne Animal, ed. i. vol. ii.

Body elongated and fusiform. Head oblong-conical in profile. Lower jaw longer. Preoperculum with the anterior margin furnished with two spines at its angle, and with its posterior and inferior serrated and armed at the angle with larger teeth directed backwards. Operculum with no true spine. Suborbital and suprascapular bones serrated. Dorsal fins entirely disconnected; the first sustained by eight spines. Anal fin trapezoidal, with three spines, the second of which is very large, and with about six branched rays.

Several species are found in the Carribbean Sea, Gulf of Mexico, and along the neighboring coasts.

Type. Centropomus undecimalis *Lac.*

b.

Head with its dorsal surface covered with scales, extending almost to the nostrils. Anterior dorsal fin furnished with from nine to eleven spines.

b.*

Teeth on the jaws and palate villiform; tongue or interbranchial isthmus with villiform teeth.

Genus LABRAX Klein, Gill.

Labrax sp. *Klein*, Historiæ Piscium promovendæ Missus quintus et ultimus, p. 25.
Labrax sp. *Cuv.*, Regne Animal, ed. i. vol. ii.
Labrax *Gill*, Proceedings of Academy of Natural Sciences of Philada., 1860, p. 111.

Body elongated and subfusiform. Head conical in profile, mostly covered with cycloid scales. Tongue furnished with teeth arranged in a marginal band and in an oval patch at its base. Preoperculum posteriorly serrated, below armed with spines directed forwards. Operculum with two spines. Suborbital bone entire. Dorsal fins disconnected; the first supported by nine spines. Anal fin with three spines and about ten branched rays.

There is only a single species of the genus *Labrax*, as that genus has recently been restricted; it is found in the Mediterranean Sea and along the western coasts of Europe.

Type. Labrax diacanthus *Gill.*
Syn. Labrax lupus *Cuv. et Val.*, *auct.*

Genus DICENTRARCHUS Gill.

Perca sp. *Geoffrey.*
Labrax sp. *Cuv. et Val.*
Dicentrarchus *Gill*, Proceedings of Academy of Natural Sciences of Philada., 1860, p. 111.

This genus has been separated from the preceding on account of the presence of only two spines in the anal fin, and the smaller and less recurved teeth of the inferior margin of the preoperculum.

Only one species is known; it has only been taken in the Mediterranean Sea.

Type. Dicentrarchus elongatus *Gill.*
Syn. Labrax elongata *Cuv. et Val.*

Genus ROCCUS *Gill.*

Roccus *Mitchill.*
Lepibema sp. *Rafinesque.*
Roccus *Gill*, Proceedings of Academy of Natural Sciences of Philada., p. 111.

Head conical in profile; cheeks covered with cycloid scales. Tongue provided with a band of villiform teeth on each side and in a single or divided patch at its base. Preoperculum posteriorly pectinated, below serrated. Operculum armed with two spines. Suborbital bones entire. Dorsal fins not united by the membrane; the anterior with nine spines. Anal fin furnished with three spines and from eleven to fourteen branched rays.

Subgenus ROCCUS Gill.

Body elongated and subfusiform. Teeth on the base of the tongue arranged in longitudinal patches.

The only known species is the common "rock fish" or "striped bass" of the Americans; it dwells in the sea, and ascends the fresh water streams to spawn.

Type. Roccus lineatus *Gill.*
Syn. Labrax lineatus *Cuv. et Val.*

Subgenus LEPIBEMA Gill.

Body oblong-ovate and compressed. Teeth crowded at the base in a single oval patch.

Only one species of this subgenus is known; it is found in the rivers and lakes of the northern and central parts of the North American continent.

Type. Roccus chrysops *Gill.*

Syn. Labrax multilineatus *Cuv. et Val.*

Genus MORONE Gill.

Morone sp. *Mitchill.*

Morone *Gill*, Proceedings of Academy of Natural Sciences of Philada., 1860, p. 111.

Body oblong-ovate, compressed, slightly gibbous at the commencement of the dorsal fin. Head conical in profile, entirely covered with ctenoid scales. Tongue provided only with a marginal band of villiform teeth. Preoperculum pectinated behind and below. Operculum armed with two spines. Suborbital bones entire. Dorsal fins joined at their base by the slightly elevated membrane; first provided with nine spines. Anal fin with three spines and from seven to eleven branched rays.

Two species are known, both of which are peculiar to North America and the neighboring islands.

Type. Morone Americana *Gill.*

Syn. Labrax Americanus *Holbrook.*

Genus LATEOLABRAX Bleeker.

Labrax sp. *Cuv. et Val.*

Perca-Labrax sp. *Temminck et Schlegel.*

Lateolabrax *Bleeker.*

Percalabrax *Günther*, Catalogue of the Acanthopterygian Fishes, &c., vol. i. p. 70, 1859.

Body elongated and subfusiform. Head conical in profile, covered with ctenoid scales. Preoperculum serrated behind, armed below with teeth recurved forwards. Operculum with two spines. Suborbital bones entire. Dorsal fins entirely separated; the anterior with eleven spines. Anal fin sustained by three spines and eight rays.

The tongue is smooth, but the interbranchial isthmus has small areas of villiform teeth.

A single species is found in the seas on the southern and south-eastern coasts of Asia and the neighboring archipelagoes.

Type Lateolabrax Japonicus *Bleeker.*

Syn. Labrax Japonicus *Cuv. et Val.*

b. * *

Jaws, vomer and palate furnished with granular teeth.

Genus PSAMMOPERCA Richardson.

Labrax sp. *Cuv. et Val.*

Psammoperca *Richardson*, Voyage of the Erebus and Terror, Fishes, p. 116.

Body oblong-ovate, compressed. Head conical in profile. Preoperculum with the anterior margin concealed; the posterior serrated, the inferior edentulous, and armed at its angle with a strong horizontal spine. Suborbital bones entire. Dorsal fins connected at the base; the anterior with eight spines. Anal fin shorter than the second dorsal, with three spines and nine rays.

One species is known; it is an inhabitant of the Indian and Australian Seas.

Type. Psammoperca waigiensis *Bleeker.*

Syn. Labrax waigiensis *Cuv. et Val.*

Genus HYPOPTERUS Gill.

Psammoperca sp. *Günther*, Catalogue of the Acanthopterygian Fish, &c., vol. i. p. 69.

Body ovate and compressed. Head conical in profile. Preoperculum serrated behind, entire below, and armed at its angle with a large horizontal spine. Operculum with its posterior angle subrotundate. Suborbital bones serrated. Anterior dorsal with eight spines, the third of which is elongated. Anal fin longer than the second dorsal, and furnished with three spines and about thirteen rays.

Type. Hypopterus macropterus *Gill.*
Syn. Psammoperca macropterus *Günther.*

b. * * *

Villiform teeth on the jaws, vomer and palate ; none on the tongue.

Genus PERCICHTHYS *Girard.*

Perca sp. *Cuv. et Val., Jenyns.*
Percichthys sp. *Girard,* Proceedings of Academy of Natural Sciences of Phiada., vol. vi. p. 197, 1854.

Body and caudal peduncle elongated. Head conical in profile, with the snout obtusely rounded or convex. Preoperculum serrated behind, armed below with teeth directed forwards. Operculum armed with a single spine. Preorbital bones scarcely serrated. Dorsal fins connected at the base by an elevated membrane; anterior with nine spines. Anal fin armed with three spines. Branchiostegal membrane on each side with seven rays.

This genus is composed of species peculiar to the fresh water streams of the temperate transandean and the southern parts of South America.

Type. Percichthys chilensis *Girard.*

Genus PERCOSOMA Gill.

Percichthys sp. *Girard, Günther.*

Body elongated, but with the caudal peduncle quite short. Head conic in profile, with the snout obtusely rounded. Lower jaw and suborbital bones cavernous. Preoperculum serrated behind, armed below with recurved teeth. Operculum armed with one spine. Dorsal fins joined at the base by the elevated membrane ; anterior with nine or ten spines. Anal fin armed with three spines.

The branchiostegal membrane appears to have only six rays on each side. A single species is known to inhabit the fresh water streams of Chili.

Type. Percosoma melanops *Gill.*
Syn. Percichthys melanops *Girard.*

Genus DEUTEROPTERUS Gill.

Perca sp. *Cuv. et Val.*
Percichthys sp. *Günther.*

Body elongated. Head conical in profile. Preoperculum finely dentated behind and beneath. Operculum terminating in a spine, above which a lobe is present. Suborbital bone serrated. The anterior dorsal fin furnished with nine spines; the second long, with a spine and about seventeen rays. Anal fin with three spines and about ten branched rays.

Only one species of the genus is known ; its habitat is unknown.

Type. Deuteropterus marginatus *Gill.*
Syn. Perca marginata *Cuv. et Val.*

b. * * *

Head entirely covered with scales. Preoperculum mostly entire. Anterior dorsal with about six rays.

Genus LIOPROPOMA Gill.

Perca sp. *Poey*, Memorias sobra la Historia Natural de la isla de Cuba, vol. ii.

Body slender and subfusiform. Head elongated, conic in profile and anteriorly acute. Preoperculum entire. Operculum armed with a strong spine. Scales covering the whole head and the bases of the vertical fins. Dorsal fins connected at their bases; the anterior with six spines, the middle of which are longest; the second armed with three spines regularly increasing in length. Anal fin with three spines; the fin increasing in height posteriorly. Caudal fin emarginate. Lateral line anteriorly strongly curved.

A single species is found in the island of Cuba.

Type. Liopropoma aberrans *Gill.*

Syn. Perca aberrans *Poey*, Memorias sobra la Historia Natural de la isla de Cuba, vol. ii. p. 125, pl. 12, figs. 2, 3.

B.

Pseudobranchiæ absent or rudimentary. Tongue smooth. Teeth villiform.

Genus LATES Cuv.

Perca sp. *Gmelin.*
Centropomus sp *Lacepede.*
Lates *Cuv.*, Règne Animal, ed. i. vol. ii.

Body oblong-ovate and compressed. Head conical in profile. Preoperculum serrated behind, dentated below and armed at its angle with a large horizontal spine. Operculum with one spine. Suborbital bone serrated. Dorsal fins scarcely joined at the base; the anterior furnished with seven or eight spines. Anal fin with three spines and about eight or nine branched rays.

The species of *Lates* have been only found as yet in Egypt and the rivers of the East Indies and China.

Type. Lates niloticus *Cuv.*

Genus CNIDON Müller and Troschel.

Cnidon *Müller and Troschel*, Horæ Ichthyologicæ, vol. i. p. 21.

Body elongated. Head conical in profile. Preoperculum serrated behind, entire below and armed at the angle with a strong horizontal spine. Operculum spinous. Suborbital bone nearly entire. Dorsal fins two; the anterior with seven spines, the second provided with a spine and about thirteen branched rays. Anal fin with three spines and about nine branched rays.

The only species has been discovered in the Philippine islands.

Type. Cnidon chinensis *Müller and Troschel.*

Synopsis generum Rhyptici et affinium.

THEODORE GILL, AUCTORE.

RHYPTICUS Cuv.

Rhypticus *Cuv.* Règne Animal, vol. ii.
Anthias sp. *Bloch.* Systema Ichthyologiæ, *Schneid.* ed.

Corpus oblongum, compressum, antice altius. Preoperculum rotundatum, postice spinis crassis duabus armatum; operculum triaculeatum. Pinna dorsalis longa, spinis duabus vel tribus portioni posteriori membrana conjunctis. Pinna analis spinis carens, vel spina minuta prædita. Pinna caudalis rotundata.

I. RHYPTICUS SAPONACEUS Cuv.

Jabonsillo *Parra*, Descripcion de deferentes Prezas de Historia Natural, p. 51, pl. 24, fig. 2, 1787.

Anthias saponaceus *Bloch.* Systema Ichthyologiæ, *Schneid.* ed. p. 310.

Le Savonier, commun }
Rypticus saponaceus } *Cuv. and Val.*, Hist. Nat. des Poissons, vol. iii. p. 63.

Rypticus saponaceus *Storer*, Synopsis of Fishes of North America, p. 37 ; ib. in Memoirs of American Academy, vol. ii.

Rhypticus saponaceus *Gunther*, Catalogue of Acanthopterygian Fishes, &c., p. 172.

Habitat in mare Caribbeo.

II. Rhypticus arenatus Cuv. and Val.

Rypticus arenatus *Cuv. and Val.*, Hist. Nat. des Poissons, vol. iii. p. 65, pl. xlv.

Rhypticus arenatus *Günther*, Catalogue of Acanthopterygian Fishes, &c., p. 173.

Habitat littore Braziliano; *Cuv. and Val.* Insulis Jamaica et Trinitate; *Günther.*

III. Rhypticus subbifrenatus Gill.

Caput longitudinis totii 28—100 ; cauda quintam formans. Altitudo corporis longitudinis 22—100 æquans. Color florescente-fuscus, maculis remotis nigris ornatus, caput macularum seriem duarum pictum ; series una maculis quatuor, a orbita ad operculi membranam spiniformam currenti ; alia maculis minoribus tribus, a oculi angulo externo-superiori ad suprascapularo currenti.

D. iii. 23. A. 15. P. 16, V. i. 5.

Habitat ad insulam Sancti Thomasi in mare Caribbeo. A. H. Rüse.

IV. Rhypticus nigripinnis Gill.

Caput longitudine longitudinis quartam superans, altitudo corporis longitudinis quintam superans (=21—100.) Pinna caudalis non longitudinis quintam formans (=19—100.) Color purpureo-fuscus, immaculatus, pinnis nigro marginatis.

D. ii. 27. A. 16. P. 14. V. i. 5.

Habitat ad "Panama," Rev. I. Rowell.

Promicropterus Gill.

Rypticus sp. *Holbrook*, Ichthyology of South Carolina, p. 39.

Corpus oblongum, valde dorso arcuatum. Preoperculum rotundatum, spinis duabus armatum. Operculum triaculeatum. Pinnæ dorsales disjunctæ, anteriori, spinis duabus a portione radiosa remotis. Pinna analis spinis carens. Pinna caudalis rotundata.

I. Promicropterus maculatus Gill.

Rypticus maculatus *Holbrook*, Ichthyology of South Carolina, p. 39, pl. vi. fig. 2.

Rhypticus maculatus *Günther*, Catalogue of Acanthopterygian Fishes, &c., p. 173.

Habitat Carolina Meridionalis littore, *Holbrook !*

Smecticus Val.

Smecticus *Val.*, Voyage de la Venus, Poissons, p. 305.

Rypticus sp. *Val.*, olim ; *Günther.*

Corpus oblongum. Preoperculum rotundatum, postice spinis duabis armatum ; operculum triaculeatum. Pinna dorsalis spinis decim armata, spinis tribus anterioribus validioribus. Pinna analis spinis duabus prædita.

I. Smecticus bicolor Val.

Rypticus bicolor *Valenciennes*, Voyage de la Venus, Poissons, pl. ii. fig. 2.

Smecticus bicolor *Valenciennes*, Voyage de la Venus, Poissons (text,) p. 307.

Rhypticus bicolor *Günther*, Catalogue of Acanthopterygian Fishes, &c., p. 173.
Color corpore capiteque rubens, albida marmoratus, pinnis niger.
Habitat ad insulas "Gallapagos."

Dermatolepis Gill.

Corpus oblongo-ovatum, antice altius, compressum. Caput magnitudine modicum, compressum; e visu laterali breviter conicum. Os modicum, obliquum. Dentes cardiformes in maxillis, vomere et ossibus palatinis. Preoperculum subangulatum, integrum. Operculum triaculeatum. Pinna dorsalis longa, supra pinnarum pectoralium bases incipiens; portio spinosa longior, spinis undecim armata, spinis posterioribus brevibus, subæqualibus, portio posterior altior, in medio altissimus. Pinna analis spinis tribus et radiis novem vel decim pradita. Pinna caudalis truncata.

Dermatolepis punctatus Gill.

Caput longitudinis totii quartam formans, corporis altitudine brevius. Color purpureo-fuscus vel purpureus, capite bene nigro maculatus, corpore maculis distantioribus et obscurioribus. Pinna caudalis albo-fusco maculata et marginata.
D. xi. 20. A. iii. 9. P. 18. V. i. 5.
Longitudo cerciter bipedalis.
Habitat ad Promontorium "St. Lucas," J. Xantus!

Descriptions of New Species of SCHIZOSTOMA, ANCULOSA and LITHASIA.

BY ISAAC LEA.

Schizostoma Spillmanii.—Testâ striatâ, subcylindraceâ, subcrassâ, luteo-fuscâ, imperforatâ; spirâ obtusâ, conoideâ; suturis impressis; anfractibus senis, valdè vittatis, planulatis, ultimo grandi; fissurâ obliquâ subbrevique; aperturâ grandi, ovatâ, intus vittatâ, ad basim obtusê angulatâ; columellâ albâ, supernè incrassatâ; labro-acuto sinuatoque.
Hab.—Coosa River, Alabama. Dr. Showalter.

Anculosa turbinata.—Testâ lævi, subrotundâ, crassâ, ponderosâ, tenebroso-corneâ, trivittatâ; spirâ obtusâ, vix exertâ; suturis valdè impressis; anfractibus quaternis, ultimo pergrandi; aperturâ magnâ, ovatâ, intus albidâ, trivittatâ, ad basim recurvatâ; columellâ incurvâ, impressâ; labro acuto, expanso, sinuato.
Hab.—North Alabama. Prof. M. Tuomey and Dr. Lewis. Tuscaloosa, Dr. Budd.

Anculosa Lewisii.—Testâ lævi, ellipticâ, subcrassâ, subinflatâ, luteo-corneâ; spinâ obtusâ, vix exertâ, acuminatâ; suturis vix impressis; anfractibus quinis, ultimo pergrandi; aperturâ magnâ, regulariter ovatâ, intus albidâ; collumellâ incurvâ, supernè et infernè paulisper incrassatâ; labro acuto, subexpanso, paulisper sinuato.
Hab.—Tennessee. James Lewis, M. D.

Anculosa Coosaensis.—Testâ lævi, obtuso-conicâ, crassâ, tenebroso-corneâ, valdè vittatâ; spirâ exertâ, ad apices obtusâ; suturis valdè impressis; anfractibus quaternis. infernè suturis valdè constrictis, ultimo magno; aperturâ rotundatâ, albidâ, intus valdè vittatâ; columellâ incrassatâ, incurvâ, tenebroso-purpureâ; labro acuto, expanso.
Hab.—Coosa River, Alabama. E. R. Showalter, M. D.

Lithasia fusiformis.—Testâ sulcatâ, fusiformi, subtenui, rufo-fuscâ, quadrovittatâ; spirâ conoideâ; suturis irregulariter impressis; anfractibus senis, ultimo magno et paulisper inflato; aperturâ elongato-rhomboideâ, intus albidâ,

quadro-vittatâ, ad basim canaliculatâ et recurvatâ; columellâ sigmoideâ, supernè incrassatâ; labro subconstricto, margine acuto.
Hab.—Coosa River, Alabama. E. R. Showalter, M. D.

Lithasia imperialis.—Testâ tuberculatâ, fusiformi, subcrassâ, tenebroso-corneâ; spirâ elevatâ, conoideâ; suturis irregulariter et valdè impressis; anfractibus senis, ultimo subgrandi, supernè irregulariter tuberculatis, subinflatis; aperturâ parviusculâ, elongato-rhomboideâ, intus albidâ, fuscis capillaris instructis, ad basim canaliculatâ et recurvatâ; columellâ sigmoideâ, supernè paulisper incrassatâ; labro subexpanso, margine acuto.
Hab.—North Alabama. Prof. Tuomey.

Lithasia Tuomeyi.—Testâ tuberculatâ, valdè inflatâ, subcrassâ, tenebroso-corneâ; spirâ obtuso-conoideâ; suturis impressis; anfractibus quinis, ultimo grandi, infrâ suturis obliquè tuberculatis; aperturâ magnâ, rhomboideâ, intus albidâ, obsoletè vittatâ, ad basim canaliculatâ; columellâ valdè incurvatâ, supernè et infernè incrassatâ; labro expanso, margine acuto.
Hab.—North Alabama. Prof. M. Tuomey.

Lithasia subglobosa.—Testâ tuberculatâ, subglobosâ, crassâ, luteo-corneâ, bivittatâ; spirâ vix exertâ; suturis impressis; anfractibus quinis, ultimo grandissimo, apud humeris tuberculatis; aperturâ magnâ, rhomboideâ, intus albâ, bivittatâ, ad basim canaliculatâ; columellâ valdè incurvatâ, supernè et infernè valdè incrassatâ; labro expanso, margine acuto.
Hab.—Tennessee. Prof. G. Troost.

Lithasia dilatata.—Testâ lævi, subglobosâ, subcrassâ, glauco-virentè, infrâ suturis luteolâ, obsoletè vittatâ; spirâ obtusè conoideâ; suturis irregulariter impressis; anfractibus quinis, ultimo magno et ventricoso; aperturâ grandi, subrhomboideâ, intus fuscescente, ad basim angulatâ; columellâ infernè et supernè incrassatâ, incurvâ; labro acuto et valdè dilatatâ.
Hab.—Tennessee. Prof. G. Troost.

Description of a new species of NERITINA, from Coosa River, Alabama.

BY ISAAC LEA.

Neritina Showalterii.—Testâ lævi, rotundatâ, diaphanâ, luteo-corneâ; spirâ valdè depressâ; suturis leviter impressis; anfractibus trinis, inflatis; aperturâ semirotundâ; labio dilatato, albo, incrassato, edentulo et incurvato; labro dilatato, tenui, margine acuto.
Operculum ———.
Hab.—Coosa River, ten miles above Fort William, Shelby Co., Alabama. E. R. Showalter, M. D.

Remarks.—The discovery of this shell by Dr. Showalter marks the first notice of the genus *Neritina* being observed in our fresh waters. His very close observation and active investigation of the waters of central and northern Alabama, have enabled him to lay the naturalists of this country under many obligations by new discoveries, and this is certainly one of much importance. We now see for the first time that this genus, which is common in Europe, Africa, Asia, South America and the West Indies, also inhabits our southern fresh waters. I have great pleasure in naming the species after the discoverer.

This species is not closely allied to any which has come under my notice. It is more rotund than usual, has a clear horn-colored epidermis, smooth and shining; the substance of the shell so thin as to permit the column to be visible through it.

It is to be regretted that among the four specimens sent to me by Dr. Showalter, neither had an operculum. The soft parts of the animal have not yet been observed.

Descriptions of two new species of ANODONTÆ, from Arctic America.

BY ISAAC LEA.

Anodonta Kennicottii.—Testâ lævi, ellipticâ subinflatâ, inæquilaterali, posticè obtusè biangulatâ, anticè rotundâ; valvulis subtenuibus; natibus prominentibus, acuminatis, ad apices granulatis; epidermide pallido-luteâ usque tenebroso-fuscâ, eradiatâ; margaritâ cæruleo-albâ et iridescente.

Hab.—Great Slave Lake at Fort Rae, and north end of Lake Winnipeg, Arctic America. R. Kennicott.

Anodonta Simpsoniana.—Testâ lævi, ellipticâ, subcompressâ, elongato-lenticulari, posticè obtusè angulatâ, anticè rotundâ; valvulis tenuibus; natibus prominulis, ad apices undulatis; epidermide tenebroso-fuscâ, eradiatâ; margaritâ cæruleo-albâ et iridescente.

Hab.—Fort Rae, Great Slave Lake, Arctic America. R. Kennicott.

March 5th.

Mr. Lea, President, in the Chair.

Forty-three members present.

The following papers were presented for publication:

"Descriptions of twelve new species of Uniones from Alabama, by Isaac Lea."

"Remarks on a species of Osmerus, taken in the Schuylkill, below Fairmount dam, by Thaddeus Norris."

And were referred to Committees.

Mr. Lea read extracts from a letter from Dr. Showalter, Uniontown, Alabama, in which he expresses a belief that the genus Schizostoma is found only in the Coosa River.

The deaths of Dr. Samuel Moore, a member, at Philadelphia, on the 18th of February, and of Prof. F. Tiedemann, of Heidelberg, a correspondent of the Academy, were announced.

March 12th.

Mr. Lea, President, in the Chair.

Forty-seven members present.

A paper was presented for publication entitled

"Notes on new and rarer species of Diatomaceæ of the United States, by Francis W. Lewis, M. D.," and was referred to a Committee.

Dr. Stewardson read extracts from a letter from Prof. Wyman, of Cambridge, dated Feb. 24, 1861, in relation to the habits of Anableps, which, swimming as it usually does upon the surface of the water, and sometimes leaving that element entirely, is enabled, by the peculiar structure of its eyes, to see as well in air as water, the upper half of the eye being especially adapted to receive the rays of light from the atmosphere, the lower half, from the water.

March 19th.

Mr. Lea, President, in the Chair.

Forty-five members present.

Copies of the Proceedings for January and February were laid on the table.